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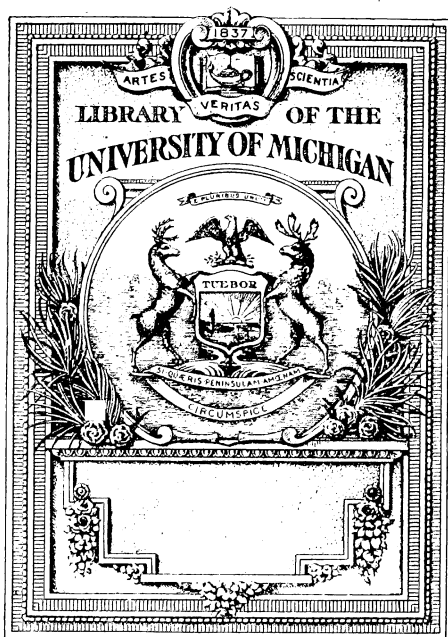
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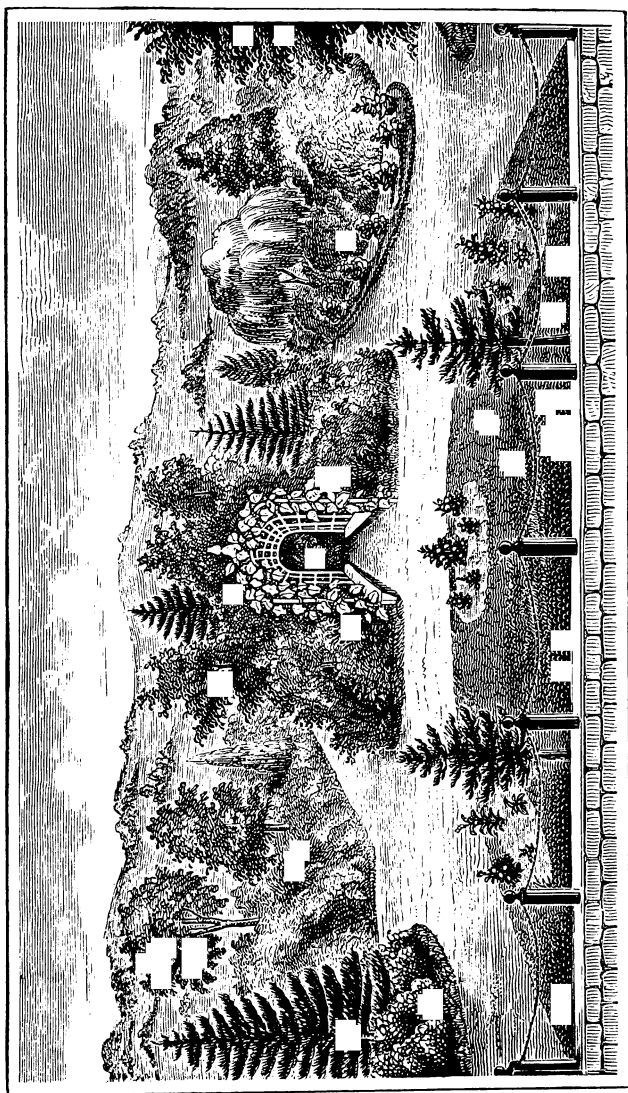
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THE GIFT OF
J. Herbert Russell



THE
FLOWER-GARDEN;
OR,
BRECK'S BOOK OF FLOWERS;

IN WHICH ARE DESCRIBED



ALL THE VARIOUS HARDY HERBACEOUS PERENNIALS, AN-
NUALS, SHRUBBY PLANTS, AND EVERGREEN TREES,
DESIRABLE FOR ORNAMENTAL PURPOSES,

WITH DIRECTIONS FOR THEIR CULTIVATION.

BY JOSEPH BRECK,
SEEDSMAN AND FLORIST, AND FORMER EDITOR OF THE NEW ENGLAND FARMER AND THE
HORTICULTURAL REGISTER.



BOSTON:
PUBLISHED BY JOHN P. JEWETT & COMPANY,
Nos. 17 & 19 Cornhill.
1851.

11

Entered according to Act of Congress, in the year 1851, by
JOHN P. JEWETT & CO.,
In the Clerk's Office of the District Court of the District of Massachusetts.

Stereotyped by
HOBART & ROBBINS,
NEW ENGLAND TYPE AND STEREOTYPE FOUNDRY,
BOSTON.

INTRODUCTION.

THE object of this volume is the diffusion of general knowledge and practical information in relation to the floral kingdom, particularly for hardy trees, shrubs and plants, desirable for the embellishment of the flower-garden and pleasure-ground. It is not designed as a scientific treatise for those far advanced in the knowledge of plants, but for new beginners, who are just entering the temple of Flora; or as a book of reference to those who have but little time for research, and who desire some simple instructions as to the mode of culture, or description of the habits, of plants or seeds which they may wish to grow. That it may be more acceptable to the great majority, technical descriptions have been avoided as much as possible. We consider it important that plants should be generally known by their scientific name, as this is universal, while the common name is only local; we have, therefore, given precedence to the botanical name, and followed with the common name, where any has been known. Some work of this kind, it has often appeared to me, was much needed. It has often been called for, in my business as seedsman. Customers will purchase a quantity of seeds, not knowing, perhaps, anything about

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their habits, cultivation, or treatment, or that there should be any difference in their management. Having had long experience in the cultivation, as well as the sale, of seeds and plants, it is expected that every inquiry should be promptly and correctly answered, in good humor, and as part of the trade; this it is always pleasant to do when there is not a press of business; but sometimes this is rather trying. This book, therefore, may be said to have been partly written in self-defence, or, more properly speaking, to give all needed instructions deliberately and correctly, instead of doing it in a hurry. The low price of the book will bring it within the reach of almost every person.

It was thought desirable to bring to notice many of our beautiful indigenous plants and shrubs, as worthy of cultivation. A handsome flower-garden may be made of these alone; many of them are within the reach of every one, and may be obtained without money and without price. The care and trouble is all the outlay, and this may be offset by the pleasure derived in collecting them from the fields, woods, or meadows.

The time of flowering and directions for sowing seeds, hardiness, &c., correspond to the meridian of Boston; but those in different latitudes will find no difficulty in making the proper allowance for the difference in location.

The plan of this work was devised twenty years ago, and more than three hundred pages of closely written letter-paper prepared for it; but it was found, in the diffuse manner in which it was commenced, that it would require a thousand pages to complete it, and, as other business interfered, it was abandoned.

In looking over this old manuscript, we found that so many new plants had been introduced, and such improvements had been made in numerous species, that it would be of but little use in this work. It was, however, to some small extent, incorporated into it. Many articles on various subjects have appeared, from time to time, in the *Horticultural Register*, *New England Farmer* and the *Horticulturist*, either with my own signature or initials, or under some fictitious one. These communications have been revised, discarding what did not agree with present experience, or opinion, and making such alterations and additions as the progress in floriculture demanded; and these have afforded material for this book. With few exceptions, I have been as familiar with the plants described as with household friends, and believe the directions given will not lead any one astray. I do not claim all as original, having culled from a great variety of books and periodicals, English and American. To Loudon's *Encyclopedia of Plants*, and other works, I am indebted for the history of many plants, and the origin of their generic or specific names. Mr. Emerson's excellent work on the "*Trees of Massachusetts*" has assisted me in the description of many shrubs and trees, to whom credit has been given in the body of the work. Dr. T. W. Harris's treatise on the "*Insects of Massachusetts Injurious to Vegetation*," has furnished me with the history and habits of the Rose-Bug and other insects. Extracts have been made from Downing's "*Horticulturist*," from Parsons "*On the Rose*," and hints from "*Hovey's Magazine*," and from various other books and periodicals.

For the poetry interspersed throughout this volume, I have drawn largely on "Flora Domestica," a pleasant English work.

In the directions for making walks, laying box edgings, &c., I am indebted to an experienced gardener, and to Mr. McMahon's old work on gardening, in connection with my own experience and observation.

J. B.

Boston, Feb. 14, 1851.

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BOOK OF FLOWERS.

ON THE IMPORTANCE OF THE CULTIVATION OF FLOWERS.

“How exquisitely sweet
This rich display of flowers, —
This airy wild of fragrance,
So lovely to the eye,
And to the sense so sweet !”

“And round about he taught sweet flowers to grow.”

“FLOWERS! The cultivation of flowers,” say some; “of what use? It neither gives us meat, drink, nor clothing.” Well, supposing it does not? Shall we not turn our thoughts to something else besides corn and potatoes, and the productions of the earth which only keep soul and body together? Is there no mind to feed and delight? Shall we always be plodding? Will it always be the inquiry, “What shall we eat, and what shall we drink, and wherewithal shall we be clothed?” Must care and business always engross the whole mind? The earth, the seas, and skies, are full of the wonders of God’s beautiful creation. Shall we close our eyes, stop our ears, and be dumb, when there is such an endless profusion around us, to delight, to cheer, and soothe us? We need not compass sea and land for our gratification; the means are within the reach of every one for innocent and healthy relaxation. It lies around us; it is at our feet; “it may be found in the garden, where, in the beginning, everything pleasant to the sight” was congregated.

Flower-gardens were ever held in high estimation by persons of taste. Emperors and kings have been delighted with the expansion of flowers; and a more exalted personage than the highest on earth, called the attention of his followers to the beauty of flowers, when he said, "Consider the lilies of the field, how they grow; they toil not, neither do they spin, and yet I say unto you, that even Solomon in all his glory was not arrayed like one of these." Nature, in her gay attire, unfolds a vast variety which is pleasing to the human mind, and, consequently, has a tendency to tranquillize the agitated passions, and exhilarate the man,—nerve the imagination, and render all around him delightful. Who, that has been confined to the business of the day, toiling and laboring in the "sweat of his brow," does not feel invigorated and refreshed, as he takes his walk in the cool of the evening, with the happy family group about him, and marks the progress of his fruits and flowers? Or who, that breathes the delicious fragrance of the morning flowers, glittering with dew, but can look up with greater confidence to Him who has strewed, with such liberal profusion, in every direction, the evidences of his goodness to the children of men?

"The cultivation of flowers is an employment adapted to every grade, the high and the low, the rich and the poor; and especially to those who have retired from the busy scenes of active life. Man was never made to rust out in idleness. A degree of exercise is as necessary for the preservation of health, both of body and mind, as food. And what exercise is more fit for him, who is in the decline of life, than that of superintending a well-ordered garden? What more enlivens the *sinking mind*? What more invigorates the *feeble frame*? What is more conducive to a *long life*?

"The pleasure derived from a fine collection of flowers requires no comment, only that the more varied and perpetual the flowering, the greater is the gratification to the observer. The moral lesson that can be obtained from flowers also forms another fine characteristic in the flower-garden; for flowers not

only please the eye and gratify the passing observer, but contain a beauty in their structure, in the most minute parts and coloring, that conveys a pleasing and natural lesson to the most accurate and intelligent observer, with everything to please and nothing to offend.

Who, that was blessed with parents that indulged themselves and children with a flower-garden, can forget the happy, innocent hours spent in its cultivation? O! who can forget those days, when, to announce a bud, or the coloring of a tulip, or the opening of a rose, or the perfection of a full-blown peony, was glory enough for one morning?

“Who can forget the vine planted by his mother’s own hand when he was a little child? Its tendrils now cling to the topmost branches of a tall tree in the front yard; and he never revisits the scene of his childhood, without gratifying some of the holiest emotions of his nature, by sitting under its shelter, and recalling the earliest and happiest associations of his life. And there, too, clinging about the columns of the porch, is the coral honeysuckle, shading the evening window with its rich and delicate clusters of flowers; and at every footstep along the border, are the many-hued flowers planted by a sister.

“It has been said by travellers that they could distinguish a pure-minded and more intelligent family, from the appearance of the house and grounds in this particular. The difference was striking,—the house of the more intelligent was surrounded with flowers—the windows displayed them—vines were twined with care and taste over the dwelling. Another presents a different spectacle. The weeds and briars are allowed to hold their dominion. In short, Solomon’s picture of the garden of the sluggard is exactly verified.

“The cultivation and study of flowers appears more suited to females than to man. They resemble them in their fragility, beauty, and perishable nature. The Mimosa may be likened to a pure-minded and delicate woman, who shrinks even from the breath of contamination; and who, if assailed too rudely by the finger of scorn and reproach, will wither and die from the shock.”

"A taste for trees, and plants, and flowers, is the love an enlightened mind and a tender heart pay to nature. It is a peculiar attribute of woman, exhibiting the gentleness and purity of her sex; and every husband should encourage it; for his wife and daughters will prove wiser, and happier, and better, by its cultivation. Who does not venerate and love some tree, or rose, or honeysuckle, planted, it may be, by the hand of some absent or departed mother, or sister, or brother? and who would not protect them with a holy reverence, as mementoes of a hallowed love as well as contributors to the gratification of an elegant taste? What can be more grateful to the merchant, or man of any professional business, than to recreate for a short time in a well-selected collection of flowers, neatly arranged and cultivated? Every one either engages his attention by its fragrance, color, or its peculiar character; and many, as the rose, white lily, &c., embrace everything to attract our most ardent desires."

In reply to the question often asked, What is the use of flowers? Cobbett asks another: What is the use of anything? There are a variety of things pleasing to the eye of man,—some of them expensive and not within the reach of all; but flowers may, without much expense, be possessed by the humblest individual. Their cultivation may be made one source of happiness to the family. Let heads of families gather around them every source of innocent amusement and recreation for their children. They should endeavor to make their home attractive and lovely, in doors and out,—a paradise, if possible.

LAYING OUT THE FLOWER-GARDEN.

“And the sinuous paths of lawn and moss,
Which led through the garden along and across ;
Some opened at once to the sun and the breeze, —
Some lost among bowers of blossoming trees, —
Were all paved with daisies and delicate bells,
As fair as the fabulous asphodels ;
And flowerets which, drooping as day drooped too,
Fell into pavilions, white, purple, and blue,
To roof the glow-worm from the evening dew.”

Situation. — As to the situation of a garden, it is not always in our power to choose. A level plat, however, is to be preferred ; for, if there be considerable descent, the heavy rains will wash away the soil. A southern aspect, sheltered from the north and west winds, is a proper situation for most plants. An inclination to the north, or west, or any point between them, should, if possible, be avoided. It should be situated contiguous or near the dwelling-house, and well exposed to the sun and air, that the culture of the more curious and valuable flowers may be treated with the best success.

Soil. — The soil should be a deep, rich loam. If not naturally so, it must be made rich and deep by trenching and manuring, by carting away poor soil and bringing on good. If naturally heavy, it should be made light with a more sandy soil ; or, if too light, it should be improved by a mixture of that which is more heavy.

The ground should be trenched two spades deep, or from twelve to sixteen inches, according to the quality of the subsoil. If the subsoil is poor, the depth of the mould must be made by carting on such substances as are most needed to correct the bad qualities of the soil. A compost, made of decomposed green sward from a pasture, and old, rotten manure, would, in most cases, be the best application to increase the depth of the soil.

If the ground allotted for the flower-garden is inclined to be wet, or springy, it should be thoroughly drained by ditches or drains so deep underground as not to interfere with cultivation. A location, having a gravelly subsoil and exposed to drought, should be avoided, if possible. In a word, what is wanted is a deep, rich soil, natural or artificial, not too wet, nor too dry.

Laying out the Garden.—In giving directions for laying out a flower-garden, it must be borne in mind that it is not the design of the writer to give elaborate plans for extensive pleasure grounds; as those who are able or disposed to indulge themselves in this great luxury, will, probably, consult the scientific landscape gardener, or derive their information from other sources within their reach, rather than from a work written particularly for the multitude, whose means may be more or less limited.

“Neatness should be the prevailing characteristic of a flower-garden, which should be so situated as to form an ornamental appendage to the house; and, when circumstances will admit, placed before windows exposed to a southern or south-eastern aspect. The principle on which it is laid out ought to be that of exhibiting a variety of colors and forms so blended as to produce one beautiful whole. In a small flower-garden, viewed from the windows of the house, this effect is best produced by beds, or borders, formed on the side of each other, and parallel to the windows from whence they are seen; as, by that position, the colors show themselves to the best advantage. In a retired part of the garden a rustic seat may be formed, over and around which honeysuckles, and other sweet and ornamental creepers and climbers, may be trained on trellises, so as to afford a pleasant retirement.”

In laying out a flower-garden, it is best to have the work all completed by the middle of October, that it may be in readiness to receive bulbous, and many of the herbaceous and other plants, and such shrubs as are hardy enough to set in autumn.

The work may, therefore, be commenced at any leisure time during the months of August and September; or, if it is more

convenient not to commence the work until spring, it should be accomplished as early as possible. If thus deferred, the proprietor must necessarily be deprived the pleasure of having anything in its greatest perfection, except annuals and tender bulbous or tuberous plants for that season. I should, therefore, advise, by all means, to have the work done in autumn.

The quantity of land to be devoted to the object may be small; but, however limited the space, it is necessary some order should be observed in the general arrangement.

As to the style of laying out, it will be difficult to propose any plan that would be likely to give satisfaction to all, for most of our readers have a fancy of their own; and, though they might be disposed to ask advice, yet would, probably, after all, follow the guidance of their own taste, whether it be good or bad. It may not be amiss, however, to throw out a few hints. And, in the first place, if any considerable extent is to be improved, — or if small, and it is desirable to have the business done neatly, and in a substantial, workmanlike manner, — we should recommend that a thorough-bred, intelligent gardener be employed to execute the work; for the beauty of a garden depends very much upon the manner of laying out, the proper consistency and richness of the soil, the make of the walks, and laying the edgings, whether of box, grass, or anything else.

The form of the ground may be either square or oblong, somewhat circular or irregular. The interior part may be divided into oblong four-feet beds, or in the manner of a parterre, in some fanciful style; the former being more convenient, particularly for most of what are called florist's flowers, but the latter more pleasing to the eye. In either method, a walk should be carried round the outward boundary, leaving a border to surround the whole ground. This outward border will be the most appropriate place for choice flowering shrubs, and tall herbaceous biennial and perennial plants. If the border be a wide one, groups of ornamental trees, of low growth, may be planted in the background, especially on the northern

and western quarters, which will greatly protect the plants from cold winds, particularly if they be evergreens. Large trees should not be planted so near as to injure the garden by their roots or shade. Every fine garden should be well secured by fence or hedge, if at all exposed to the public road. A hedge is far the prettiest, if well managed, neat, and ornamental.

“The plan of the garden, be it either large or small, generally pleases when it is so constructed as to give a variety in the design. Formality, though often the leading feature, seldom gives that ease that is requisite. The planting of the ground should also bear the nicest consideration; by which, I mean that such shrubs and plants should be selected as will form a pleasing contrast, and appropriate in the different places assigned to them.”

GARDEN WALKS.

Width of Walks. — The main walk, or walks, of a garden, should be laid out on a liberal scale. Nothing detracts so much from the pleasures of the flower-garden as contracted walks. When we wish to enjoy the company of a friend, in the flower-garden, it is much more agreeable to have him by our side, arm in arm, than to be under the necessity of making the tour of the garden in Indian file. The main walks should, therefore, be calculated so as to admit two persons to walk comfortably in a social manner; and, if wide enough for a little one in addition, so much the better. From five to six feet will not be too wide for the main avenue. The internal compartments, of course, should have much narrower walks, the width of which must be graduated in a degree by the size of the garden.

The walks of the flower-garden should be constructed of such material as will make firm and dry walking at all seasons of the year. The best walks are composed of small stones, oyster-shells, coarse gravel, or broken bricks, covered with five or six inches of fine gravel. As to the color of the gravel, or coating, you must be governed by fancy and convenience; but

as to quality, it should be coarse and lively, containing a due proportion of light sandy loam, to make it bind close and firm at all seasons; but not so redundant in loam or clay as to stick to the feet in wet weather, nor so sandy as to be loose and open in dry weather.

Ground oyster shells are sometimes used, also granite chips, from a stone-cutter's, which make fine, hard walks; but these substances are too brilliant for the eye in a sunny day, and on that account are objectionable. A reddish free-stone color has a better effect.

Agreeably to your design, stake out the width of the walk, and proceed to level the boundary on each side, corresponding with the adjacent ground, and form the cavity of the walk for the reception of the gravel, — observing that the whole space, to make a good and permanent walk, should be dug twelve or fifteen inches deep, to allow a proper depth for gravel, to prevent the weeds from rising from the ground below, and worms from casting up the earth thereof. The earth dug out from the cavity of the walk may be used to raise and level any hollow parts on each side, or contiguously situated, which, with the edging, if of box, should always be completed before you begin to lay the gravel.

The walks being thus laid out, you may first lay any stony rubbish, — such as broken bricks, small stones, &c., — for several inches deep in the bottom, which will drain off extra moisture, and thereby prevent the surface from becoming mossy or foul; the proper gravel is then to be laid on, six or eight inches thick. As you proceed in laying, observe to rake off the coarse parts into the bottom, and to raise the middle of the walk higher than the sides, in a gradual rounding form, just as much, and no more, as is sufficient to carry off the wet to each side.

The proportion to be observed is, — a walk of four feet wide should be one and a half inches higher in the middle than at the sides, and for every foot after, that such increases in width, add one fourth of an inch for the centre elevation.

Rounding the walk too much would make it very uneasy to walk upon, and of an unpleasant appearance. No more gravel should be laid in one day than can be finished off and rolled effectually. Clean, hard gravel walks add much to the beauty and comfort of the garden.

A garden roller is indispensable where there is any extent of walks, and it should be applied as often as once a week, and particularly after a rain.

PLANTING BOX AND OTHER EDGING.

The surface of the garden having been levelled, and the walks dug out, according to the plan, and partially filled with stones and coarse gravel, the operator may now proceed to plant the box edgings, or any other plant he may substitute for that purpose, or grass if that is preferred.

Box, of all other plants, makes the neatest and most beautiful edgings. This may be set in September or October, but will require protection, as it is very liable to be thrown out by the frost, or winter-killed, without it. It may also be planted in the spring, and also in June; but when late planted will require shading and watering.

Box takes root freely from cuttings, and is sometimes used without fibres; but, unless great care is taken, some of it will fail to grow, thereby making the edging uneven and full of gaps, and it will be found difficult to get into good shape again. If it is to be raised from cuttings, it should be done in a bed by itself, where it can have the benefit of shading and watering.

To make neat edgings, you should get some short, bushy box, and let it be slipped or parted into moderately small slips, of not more than six or eight inches in length, dividing it in such a manner that each slip shall have more or less roots or fibres upon it, rejecting such as are destitute, for planting by themselves. If any have long, straggling roots, they should be trimmed off, and the plants should be made pretty much of a length.

It is to be premised that the margin of the beds have all

been properly levelled or graded; then they should be trodden lightly and evenly along, to settle it moderately firm; if for a straight edging, stretch the line along the edge of the bed or border; with the spade make up any inequalities of the surface according to the line; then, on the side of the line next the walk, let a small, neat trench be cut, about six inches deep, making the side next the line perfectly upright, turning the earth out toward the walk or alley.

For a curving margin, a strip of board, an inch wide and twelve or fifteen feet long, with pegs attached by screws or nails, at various distances along its length, so that it can be made fast in the ground, to correspond with the design, may be used instead of the line; or some workmen are so expert, that, having the design transferred to the ground, they will proceed with accuracy without such a guide. At any rate, the trench is to be dug out as directed for a straight line.

The box is to be planted in the trench, close against the upright side, against the line or strip of board, placing the plants so near together as to form immediately a close, compact edging, without being too thick and clumsy, and with the top of the plants as evenly as possible, all an equal height, not more than an inch or two above the surface of the ground; and, as you proceed in planting, draw the earth up to the outside of the plants, which fixes them in their due position; and when you have planted the row out, then with your spade cast in the earth almost to the top of the plants, and tread neatly and closely thereto. When the edging is planted, let any inequalities of the top be cut as even and neat as possible, with a pair of shears.

Grass makes a very neat edging if kept in order, but it requires so much attention to keep it in its place, so much edging and cutting, that I would not recommend it. If, however, it is made use of, it should be obtained from a pasture or road-side, where it may be easily cut in strips to suit, of three or more inches wide, according to fancy. The sward should be fine and tough, so as not to break in cutting and removing.

The mode of laying will suggest itself to almost any one:—the surface of the grass should be on a level with the earth, and but slightly raised above the walk.

Thrift, if neatly planted, makes handsome edgings to borders or flower-beds. This may be planted as directed for box, slipping the old plants into small slips; setting the plants near enough to touch one another, forming a tolerably close row.

Thyme, hyssop, winter savory, and pinks are frequently used for edgings, but they are too prone to grow out of compass, and therefore not to be recommended.

Many other plants are often used for edgings, but there is nothing that makes so neat and trim an edging as box.

It is a good time to clip old box edgings in June. They should never be suffered to grow tall, but be kept down low.

It is best to give some protection to box in the winter by coarse litter, or by throwing up a few inches of the fine gravel on one side, and the earth of the border on the other.

SELECTIONS OF FLOWERING PLANTS FOR THE GARDEN.

“To raise your flowers, various arts combine,
Study these well, and fancy’s flight decline ;
If you would have a vivid, vigorous breed,
Of every kind, examine well the seed ;
Learn to what elements your plants belong,
What is their constitution, weak or strong ;
Be their physician, careful of their lives,
And see that every species daily thrives ;
These love much air, these on much earth rely,
These, without constant warmth, decay and die ;
Supply the wants of each, and they will pay
For all your care through each succeeding day.”

To select the most desirable plants, and to arrange them with good taste, requires an extensive knowledge of the floral kingdom. The time of flowering must be known, the height, hardiness, habits, odors, &c. ; also the effect of the combination of different colors, so that the plants may be arranged in such a manner as to produce the happiest effect. I shall place before my readers an extensive collection of the most desirable plants, embracing hardy Annuals, Biennials, Perennials, and Shrubbery, pointing out their various habits, qualities, beauties or defects, and modes of cultivation, describing them as plainly as possible, without using any more technical language than is necessary for that purpose. The circumstances of different individuals vary so much, as well as their taste and fancy, that, having given these particulars, it must be left with each one to choose for themselves such plants as are adapted to their circumstances, the extent of their ground, soil, &c. Some suggestions may not be out of place.

Some persons, anxious for a great variety, crowd too many plants into a small space ; consequently have nothing in per-

fection. This is too often the case with young beginners, and it is not uncommon to see the small patch devoted to flowers as unsightly as if it were filled with weeds. It is much better to be confined to a few fine varieties, and cultivate them well, than to pursue the careless style which is frequently seen in the flower-garden, or what is denominated as such.

Tenants, who occupy their places for an uncertain length of time, are not generally disposed to make many improvements by the addition of plants. Those who may be thus situated, and have a desire for a flower-garden, can, without much outlay, have a succession of flowers through the season. The following Annuals may be obtained for one dollar:—Double Rocket Larkspur, Phlox Drummondii, Mignonette, German Asters, Coreopsis Drummondii, Pansies, Sweet Peas, Poppies, Gillyflowers, Chriseis, Purple and White Candytuft, Nemophila, Petunias, Lavateras, Convolvulus, Globe Amaranths, Immortal Flower, Mourning Bride, and Sweet Sultans. For two dollars a dozen, Verbenas, of different colors, may be obtained, that will keep up a lively bloom from June to November. A dozen fine Dahlias and a few Gladiolas will cost three or four dollars, which, with a few monthly roses to be turned out into the garden, and to be re-potted in autumn, and a few choice perennials, grown in deep pots and plunged in the ground, will not altogether exceed the sum of ten dollars. These plants, well grown, will make a fine display, and quite a respectable flower-garden.

NATIVE PLANTS.

Many beautiful plants may be selected from the woods and fields, by those who wish to ornament their grounds at the least expense. These would be more highly prized than many far-fetched plants, that are trumpeted before the public, from time to time, could they be seen grouped together in the flower-garden, with the same care of cultivation bestowed upon them as upon some of the expensive exotics. What plant can rival the splendor of the *Lobelia cardinalis*, with its thousands

of vivid scarlet flowers, when perfected by the gardener's hand? How few have seen the beautiful *Aquilegia Canadense*, improved as it may be in the flower-garden? Who has tried to cultivate the Gerardia family—a tribe of plants singular in their habits, and perhaps difficult to manage in the garden; but their great elegance and beauty would, no doubt, amply repay any pains that might be taken to domesticate it. Our native Asters,—a large family of interesting plants, enlivening our autumnal months, some of them very beautiful in their wild state,—are greatly improved when transplanted into the flower-garden. What an acquisition to our floral treasures would be a double variety of *Aster multiflorus*, with its pure white flowers; or *A. puniceus*, with its lively blue; or *A. Novæ Anglæ*, with its purple flowers; or what curious sports might be expected from crossing the different species! No doubt as great an improvement might be made with our native perennial Asters, as has been made with our annual China or German Asters, in their improved state.

Then there is the extensive genus *Solidago*, embracing many fine species of different heights, with their rich yellow flowers. Of the *Asclepias*, what is prettier than *A. decumbens* and *tuberosum*, with fine orange flowers—and other species with red or purple?

Some of the large family of *Violas* are very pretty. Our Lilies, Lupins, Hepaticas, Geraniums, Gentians, Iris are worthy a place in the pleasure grounds.

The curious Orchideous and Trillium tribes, so wild in their habits, and impatient of cultivation, might be introduced, and a multitude of others, that would produce a fund of amusement to the cultivator, in watching the progress of improvement, that might be developed from time to time, in efforts made to perfect them. Among our shrubs, are many very beautiful. What more so, than the *Kalmia*, *Azalea*, *Rhodora*, and many others to be found in different locations? Surely, in making up our selections of plants, those of our own native land should not be neglected.

OLD-FASHIONED FLOWERS NOT TO BE DISCARDED.

In selecting for the garden, it should be borne in mind that many of the new varieties of flowers, of recent introduction, trumpeted forth, in advertisements and catalogues, as being "exquisite, superb, unsurpassed," &c., are, many of them, greatly inferior to the old and highly esteemed varieties of the old-fashioned gardens. These time-honored denizens of the flower-garden should not be discarded as antiquated and out of fashion. My opinion is fully expressed in the following article from the *Gardener's Chronicle* : —

"Among the many follies which the gardening world commits, none is more striking to the looker-on, than the eagerness with which old favorites are deserted for new ones. Of all inconstant lovers, gardeners must surely be the most inconstant. To-day they are at the feet of a *Dahlia*; to-morrow there is no beauty like a *Pansy*, and both are presently deserted for a *Cineraria*. In their eyes, old age is a crime, and aged flowers are mercilessly consigned to the poor-house. We remember when *Cape* plants were the rage; a *Brunsvigia*, or an *Ixia*, or a *Protea*, were standing toasts; to possess such fair objects was the height of man's ambition. But in a few years these were thrown aside, and *New Holland* beauties supplanted them; to be succeeded by the flaunting, or shy and delicate, natives of *South America*. If we look to an old garden catalogue, we can but wonder how the flower-garden was decorated by our fathers; for there we find little besides races now known only by name.

"*Marigolds* and *Candytufts*, *Love-lies-bleeding*, *Globes* and *Balsams*, *Catchflies* and *Cockscombs*, *Daisies* and *Dittany*, *Persicarias* and *Prince's Feather*, *Lupins*, *Tricolors* and *Marvels of Peru*, *Sunflowers* and *Sweet Sultans*, — pride of the eighteenth century, — ye have all fallen victims to the flickering meteor called taste; and are now only to be found in the old drawers of old seed-shops, where you are but the curios-

ities of floriculture ; or in remote country gardens, not yet reached by steam or electricity. Even in acknowledging an acquaintance with Hollyhocks and China Asters, we do so under a feeling of something like shame at being known to keep such doubtful company.

“Are these follies to have an end ? Shall we never be wise enough to look upon all flowers as equal ? Do we not yet know that what is called the difference in their attractions, is but a difference in our skill in managing them ; and that they are all endowed with wondrous beauty, varying in kind, but the same in nature ? Most especially must we inquire whether the arts of the cultivator should be limited, as they are, to the domestication of a few fashionable races, to the entire neglect of the ancient inhabitants of the flower-garden ? A Hollyhock is as showy as a Dahlia, infinitely more graceful, much easier to cultivate, as prone to run into varieties, and hardy instead of tender ; yet the lumpish Dahlia is seen everywhere ; societies are formed to admire it and to gamble in it ; and the Hollyhock is consigned to a few places, where, as at Shrubland, refined taste still excludes fashionable vulgarity. The Amaranths are a race peculiarly suited for rich autumnal decoration, — quick-growing, many-sized, and long-enduring, — no doubt susceptible of further change ; but they are abandoned for the sake of Petunias and Chrysanthemums. Surely it would be wiser to try to improve those ancient races, which are so well suited to our climate and our purses, than to limit our skill to tampering with the constitutions of the delicate, though brilliant, strangers that have taken such entire possession of our affections.

“Let no man say that they are incapable of improvement. Who has tried the experiment ? Who has tried to cross the Prince’s Feather with the Cockscomb ? or Love-lies-bleeding with the Tricolor ? or the Bee with the Dwarf Larkspur ? or the Persicaria with the straggling Buckwheat, (*Polygonum divaricatum*) ? or the Indian Pink with the Carnation ? or the Marigold with the Coreopsis ? Until these trials have been

made, with at least as much care as has been shown in managing the *Calcolaria*, or the Pansy, we must be permitted to say that our ancient friends are unfairly treated, and that we are doing ourselves much disservice."

We shall be told that experiments of the class suggested are hopeless. We believe them to be likely to lead to highly important consequences, especially in those cases where the result of success would be to improve a perennial by the aid of an annual; a very material consideration.

Plants should be chosen that will give a succession of flowers from the early part of the spring till the winter closes the flowering season. In this work we hope we have so described the various plants, that almost any person of taste may be enabled to select such as may be deemed proper to effect this object. Those persons who can, conveniently, visit nurseries and gardens during the season, will select more accurately by noticing the plants when in bloom, as their true character and portrait can be seen, and appreciated, far better than from any description that can be given.

ROCK-WORK.

There are many plants that succeed best when planted among rocks; and, for their accommodation and to show off their beauties to the greatest advantage, it is common in many gardens, to have an appendage, called a rockery. This is made of a collection of stones, in the rough or natural state, laid up without much order, with soil, which should be concealed as much as possible by the fragments of rock. As many of the plants succeed best in the shade, a portion of the rock-work should be partly surrounded with trees or shrubs, that they may derive that advantage. Trilliums, Orchis, Cypripediums, and some few ferns, and a great variety of native plants which are found in our woods, with an appropriate soil, would flourish well in such a spot. The rockery should be partly, or wholly, concealed from the general flower-garden by shrubs or trees. It may be approached from the main walk under a

rustic arch, mantled with climbers, or through a winding passage among evergreens. Rockeries should be formed as much as possible of natural materials; the stones, or fragments of rock of which it is composed, should not bear the marks of the quarry, or any art. For a small garden one collection of rocks or stones, with a walk round it, will be sufficient; but when a person has some fancy, a variety of beds or collections may be made with winding walks around them, which, if relieved with some dwarf evergreen shrubs, may be made to show off a great variety of dwarf plants to the very best advantage. Rockeries should be conspicuous for a natural character. No appearance of art, and no approach to the regularity or smoothness proper to works of art, will be at all in place here. The surface of the whole cannot be too irregular, or too variedly indented or prominent. Evergreen shrubs of low growth will be particularly useful in giving prominence to some portions of the work; provision will, therefore, have to be made, in the placing of the stones, for planting a few shrubs, and a greater number of herbaceous rock plants, in their interstices, which should be left broader or smaller, according to the size of the plant that may be required in them.

In arranging the stones, they should be laid upon their broadest or flat sides, with the outer edge slanting downwards rather than upwards. Any great elevation should never be sought in small rockeries. This would be inconsistent with their breadth, and would render them too prominent and artificial. There are many rocky locations in New England, which, with a little study, might be converted into tasteful and beautiful gardens, where all the fine creepers might display their beauties on the more prominent points, and the more accessible places be fitted up to receive the more humble dwarf species.

LAWNS.

No flower-garden can be complete without some grass. There are but very few, however, who can afford the luxury of an extensive grass lawn; but every one wishes for a few

rods, at least, about the house ; this may lay between the house and garden. When there is but a small surface to grass over, it may be done with turf, if it can be obtained of a good quality, which is not often the case. The best way is to begin at the beginning, and do the work up thoroughly. First see that the ground is well prepared by deep digging or trenching ; for it is in vain to expect the lawn to preserve its greenness in summer, unless the soil is pulverized so that the roots of the grass may penetrate two feet deep. After the soil is thus prepared and levelled, it should be left to settle a week or ten days ; then it should be raked off smooth, and it will be ready for the seed. The New England red-top, or bent grass, alone, makes the finest lawn for this climate ; but if it is desirable to give immediate effect to the lawn, there should be a mixture of white Dutch clover. Three bushels of red-top to ten pounds of white clover, or four bushels of red-top without it, is none too much for an acre. This may seem a heavy seeding, but it is none too much. After sowing the seed, it should be rolled with a heavy roller.

To have a fine lawn, it is necessary not only to mow it often, but roll it also, especially after a rain. By doing thus, a close texture and fine velvety turf may be obtained.

REMARKS ON THE CULTIVATION OF PERENNIALS, BIENNIALS, AND ANNUALS.

“A flowery crown will I compose —
I'll weave the Crocus, weave the Rose ;
I'll weave Narcissus, newly wet,
The Hyacinth and Violet ;
The Myrtle shall supply me green,
And Lilies laugh in light between ;
That the rich tendrils of my beauty's hair
May burst into their crowning flowers, and light the painted air.”

PERENNIALS are those plants which do not in their growth form either trees or shrubs, but which lose their tops, wholly or in part, every year, after they have done flowering; the roots continuing to live and generate for several years successively.

Biennials are those plants that flower the second and sometimes the third year from the time the seeds are sown, and then perish, as the Hollyhock.

Imperfect Perennials continue three or more years, and then die, as the Sweet William or Fox Glove, but which, with a little care in dividing the roots every year, can be kept many years.

Perennials are hardy, half-hardy, and tender. Hardy perennials stand the hardest winter without protection; half-hardy require to be well protected; and tender perennials must be kept through the winter in the green-house.

Perennials are of two kinds, *bulbous* and *herbaceous*, which, differing materially from each other in habits, require, consequently, a different kind of treatment. Such being the case, a few remarks will be made on each kind separately.

BULBOUS PERENNIALS.

They are of three kinds, — viz., hardy, or such as grow in the open border; half-hardy, such as will not stand out over winter, or requiring a frame or the green-house; and stove, or those that will not grow to perfection without artificial heat. Of these last we shall have nothing to say. Many of the half-hardy are perfected when planted in the open ground in the spring, and are sometimes called spring bulbs, as the *Gladiolus*, &c.

The *Anemone* and *Ranunculus*, are half-hardy, requiring the protection of a frame or otherwise.

Hardy bulbs, with few exceptions, are remarkably easy of cultivation, and, if planted in proper soil and situation, seldom fail to produce plenty of offsets and seeds for propagation.

The best kind of soil for their growth is a light loam, rather sandy than otherwise, yet not too light, or the bulbs will be injured during the heat of summer, and, if adhesive, they invariably grow weakly, and seldom flower.

As to the depth the different bulbs require to be planted in the ground, no certain rule can be laid down, as some species require to be planted from three to five inches, while others not more than one and a half, deep. The different depths will be given as each variety in species is described.

Encourage as much as possible the growth of the leaves, by giving them free exposure to light and air; for on the full development of these depends the success of the bulbs flowering another year. If the leaves grow strong, a good quantity of strong pulp is stored up in the bulbs, and a good bloom is the consequence.

Never, if it can be avoided, disturb the roots by removal during their growth; but if obliged to do so, select a wet day, and take them up with good balls, so as not to injure the fibrous roots.

The only time to remove them with success, is during the time of their torpidity, at which time the offsets may

be separated, and planted where the cultivator may judge best.

The season of rest, for most bulbs, happens shortly after they have done flowering. Tulip and Hyacinth bulbs are generally ripe in about one month from the time of flowering. As soon as the foliage of the Tulip turns purple and begins to dry, the bulbs may be taken up; and, with the Hyacinth, before the foliage is fully decayed. As a general rule, when the tops have quite died down, the bulbs may be taken up and separated.

With the exception of Tulips, Hyacinths, Narcissus, and some others, most hardy bulbs are injured if kept long out of ground, as the Lily tribe, Crown Imperial, &c. It is best to plant immediately offsets of bulbs, of every description, for if kept long out of ground they become exhausted and perish. Bulbs that have commenced growing, before planting, are always weakened; yet ignorant purchasers will frequently select such because they look more lively. If they have made much growth, the bulb will not flower at all.

Some tuberous roots are classed with bulbous roots. Strictly speaking, it is not correct, but for convenience sake we shall so consider them. The Dahlia and Peony are, properly, tuberous roots. Of these, directions for cultivation will be given when described.

HERBACEOUS PERENNIALS AND BIENNIALS.

The mode of cultivating this class of plants is perfectly easy; three things chiefly have to be attended to. *First*, the manner of propagation. *Second*, the most suitable soil. *Third*, the requisite temperature. There are five methods of propagation practised: by divisions, suckers, layers, seeds, and cuttings.

Dividing the Roots.— This may be done either with a kind of knife, if the plant is small, or a spade, if it is strong and large. The best time for doing it is when the tops are just beginning to grow after having been cut down.

The roots may be divided in the spring, or almost any time (with some species) during the summer, after flowering. The month of August is a proper time for many kinds, as the divisions will take strong hold before winter, and be prepared to flower strongly the next year.

Suckers. — These may be taken up at any time when they appear, but the most usual time is when the plant is beginning to grow.

Seed. — Sow, for the most part, in early spring, in light soil, and plant out in the following autumn in the situations where they are to flower. Many of the fine double and other varieties never produce seed.

Layers and Cuttings. — Thrifty, succulent shoots, if partly cut through, and pegged down, and covered with earth, will take root, as is the case with the Pinks and Carnations. Cuttings of many plants will take root, with proper care.

Soil. — Different species of plants require rather different kinds of soil; but a light, rich loam will suit the greater part of plants.

Temperature. — Hardy, half-hardy, and green-house plants require similar care, except the amount of protection or quantity of heat, to bring them into the most perfect state.

ANNUALS.

The plants generally known as annuals, are raised from the seed, perfect their flowers, mature their seed the same season, and then perish. There are some flowers, however, cultivated as annuals, that are such only in a northern climate, being in their own more congenial region perennials, or biennials. Among them are the Verbena, Chriseis, or Eschscholtzia, as it was formerly called, Commelina, Mirabilis, and many others. This class of annuals may be kept through the winter in green-houses or in any light cellars. Annuals are most appropriate for those who are changing their abode from year to year, as from these alone a fine display may be kept up the whole sea-

son, with the exception of the vernal months, and this deficiency may be supplied by having a choice collection of perennials, grown in pots, which can be plunged in the ground, and thus removed at any time when it is necessary to change the residence.

No collection of plants can be perfect without an abundance of annuals, as they can be disposed of in such a way as to succeed the perennials, and keep up a continuous bloom in all parts of the garden through the season.

Annuals may be divided as follows: — hardy, half-hardy, and tender.

Hardy annuals are such as may be sown in autumn or very early in the spring, as all the Larkspurs, Chriseis, Clarkea, Asters, Candytufts, &c. Half-hardy are those which will not bear a hard frost, and therefore not proper to plant in the open ground before the middle or last of May, as the Balsam Cockscomb, Marigold, &c. Tender annuals can hardly be brought to perfection without starting them in artificial heat, in a hot-bed or otherwise, and are very sensitive of cold, as the Cypress vine, Thunbergia, Ice Plant, Sensitive Plant, &c. Many of these, in a very warm season, will succeed tolerably well if planted about the 1st of June; but to have them in perfection they should be raised in a hot-bed, in pots, and turned out in the ground the middle of June.

Before sowing annuals, the soil in which they are to be grown should be made light and rich, and very finely pulverized, as many of the seeds are very small, and require every advantage and care to get them up. The small seeds must receive but little covering, and that of the finest earth. In sowing these, my practice is to sow them in patches six or eight inches square. The soil having been well prepared, I settle the ground gently with the foot or a small piece of board, so as to make an even, somewhat firm, surface. The seeds are then evenly strewed over the surface. Then take some very fine soil and sift or strew over them, covering the seed not more than one eighth of an inch deep, after which press the

soil again with the board gently. It is now of great importance that the seeds, as they vegetate, should be protected from the scorching sun; an evergreen bough is as good as anything to shade them. The soil must not be permitted to get dry until the young plants have acquired some strength; after which they may be left to take their chance from the effects of sun or dryness. When the plants are of a proper size, and the weather suitable, they may be taken up with a transplanting trowel, and set where wanted. A small patch of this description will afford plants enough for any common garden. In removing them, a number may be taken up together without disturbing the roots; but when the plants have become established, all may be cut off except the strongest ones. As a general rule, a single plant gives better satisfaction than when a number are grown together, except when planted in masses, or where there is to be a group. The beauty of many annuals is completely destroyed by huddling them together. Give every plant room according to its habits. A single plant, well trained, may be made very beautiful; while a number of the same species, grown together, without sufficient room, would be worthless.

Larkspur, and many other seeds, should be sown where they are to remain. A bed of Double Rocket Larkspur, well managed, is almost equal to a bed of Hyacinths, when in bloom. This succeeds best when sown late in autumn or very early in the spring. The seed may be sown in drills, eight or ten inches apart, in beds, and the plants well thinned out. Larkspur, and many other hardy annual seeds, if sown late in autumn, and lie dormant all winter, will give much stronger plants than the same kinds of seed sown very early in the spring, notwithstanding those sown in the spring may appear above ground as soon as those sown in autumn. The reason probably is, that the autumnal sown seeds are so prepared, by the action of the frost, that they start with greater vigor, and consequently are more robust than the spring sown seeds.

Some seeds are difficult to germinate. Cypress vine is an example. This requires scalding, to facilitate its germination;

or, if the hull is carefully taken off with a penknife, so as not to injure the germ, the object is effected, and it will immediately vegetate. The seeds of *Gomphrena globosa* (Globe Amaranth) is encased in a thick coating of woolly substance, which greatly retards vegetation. This, with the hull, if taken off, causes the germ to push immediately ; or, if the seed is soaked in milk twenty-four hours, it will soon start ; but, if planted with the coating on, or without soaking, very few will appear above ground.

As a general rule, the depth of planting flower seeds is to be governed by the size. For example, the Sweet Pea and Lupine may be planted an inch deep, and so in proportion. Annuals have a pleasing effect when planted in masses, particularly when the pleasure-ground is extensive. For this purpose, the Verbenas, of various colors, Portulaccas, Nemophylla, Chriseis, Phlox Drummondii, Coreopsis Drummondii, Candytufts, and many other dwarf plants, are desirable. Beds of any of these, or others of similar habit, in a well-managed grass lawn, are very ornamental. The beds should be either round, oval, starry, or irregular ; but never square, diamond shape, or triangular. Masses of annuals may be so arranged as to make a grand display in the common flower-garden. We have seen the walks of an extensive flower-garden deeply edged with a wide border of crimson and scarlet Portulaccas ; and, throughout the whole garden, all the annuals, and other plants, in fact, were planted in masses. We have never seen a better managed garden than this one. It contained about an acre of ground. Not more than twenty or thirty kinds of annuals were cultivated in the garden, and of this class of plants more than one half of the ground was filled. They consisted of every variety of Double Balsams, German Asters, Drummond Phlox, Coreopsis, Amaranths, Verbenas, Portulaccas, Double China Pinks, Petunias, Mignonette, Cockscombs, Gilliflowers, &c.

ON THE CULTURE OF HARDY DECIDUOUS AND EVERGREEN SHRUBS.

"I like a shrubbery, too, it looks so fresh ;
And then there is some variety about it.
In spring, the Lilac and the Snowball flower,
And the Laburnum, with its golden strings
Waving in the wind ; and when the autumn comes,
The bright red berries of the Mountain-ash,
With pines enough, in winter, to look green,
And show that something lives."

THE flower-garden will be incomplete without a shrubbery. A collection of shrubs and trees, embracing the different varieties to be obtained at our nurseries, will add much to the interest of the pleasure-ground. They should not be planted at regular distances, or in straight lines, as in that way they look too set and unnatural ; but, when grouped together, the various sorts gracefully intermingled with the taller species in the background, they present, at all seasons of the year, an interesting sight.

Shrubs are divided into two classes — Deciduous and Evergreen. Deciduous shrubs are those which lose their leaves in autumn. However uninteresting the naked branches of this class of shrubs may appear, to the careless observer, when denuded of their foliage, they are not devoid of beauty to the lovers of nature ; but, when mingled with evergreens, are pleasing even in winter. The twigs of some species are red ; others yellow, or various shades of brown ; and then many species are covered with a profusion of berries, of different colors, which, contrasting with the evergreens, give a lively look to the shrubbery, even in the most dreary months.

The culture of hardy shrubs is, in general, simple and easy. The chief things to be noticed are, — the proper season for planting, the situation in which the plants will thrive, the

kind of soil best suited to their growth, and the encouragement given to enable them to thrive afterwards.

The proper Season for Planting. — As soon as the leaves begin to fall, in October, deciduous trees may be planted with safety, with few exceptions. Altheas, and some other sorts liable to be winter-killed, had better not be removed until spring. The spring planting, of all deciduous trees and shrubs, should be done as early as possible, — as soon as the ground can be worked to advantage, and before the buds begin to expand.

Evergreens, in general, if carefully taken up, may be planted with success in any season of the year, provided dull and dripping weather be taken advantage of for that purpose. There are particular seasons, however, when they will thrive with much greater freedom than at others. I have been as successful about the first of June as at any other time, and have also succeeded in planting, the 1st of July, and in August; but, as a general rule, when they commence their growth, the last of May. It is indispensable that all large trees and shrubs be removed with good balls, and that the roots be uninjured. In planting evergreens, (and the same may be said of deciduous trees,) whether it be done on a dull day, a wet day, or a dry day, it is very necessary to keep in view the expediency of keeping the plants for as short time out of the ground as possible, — if only a few minutes, so much the better. If any quantity are to be planted, the plants should be “heeled in,” as it is termed, (that is, the roots covered with earth,) and taken out, as they are wanted. I have generally been successful, without watering as I planted; but others think it necessary, and one writer says: —

“In all seasons, situations, and soils, the plants should be well soaked with water as soon as the earth is put about the roots. Where the water is not at hand, so that it may not be easily carried or wheeled by men, a horse with a water-barrel on wheels should be used. As soon as the plant has been put into its place the earth should be filled in, leaving a sufficient

hollow round the stem, and as far as the roots extend, to hold water, which should then be poured on in sufficient quantity to soak the ground down to the lowest parts of the roots; in short, the whole should be made like a kind of puddle.

“By this practice, which is particularly necessary in spring and autumn planting, the earth is carried down by the water, and every crevice among the roots is filled. Care must always be taken to have as much earth above the roots of the plants as will prevent their being exposed when the water has subsided. The best plan is to take an old birch broom, or anything similar, and, laying it down near the root, pour the water upon it; this breaks the fall of the water, and prevents the roots from being washed bare of such earth as may adhere to them. In this way time is saved, for the water may be poured out in a full stream from the pail, a watering-pot, or even from a spout or pipe in the water-cart or barrel, when the situation is such that this can be brought up to the plant.

“After the first watering is dried up, the earth should be levelled round the stem of the plant, and as far out as the water has been put on, but not trod. If the plants are large, a second watering is sometimes necessary; but in ordinary sized plants, one watering is quite sufficient. And, after remaining twenty-four hours, more or less, according to the nature of the soil, the earth about the stem and over the roots should be trod as firm as possible, and, after treading, should be dressed with a rake.”

“*The Situations in which the plants will thrive.*—With regard to the situation in which each shrub should be planted, little can be said here. To form a correct judgment of this, a knowledge of the natural habits of each is required. This knowledge may be easily obtained by referring to a botanical catalogue and other works treating on the subject. Some shrubs love a dry and elevated situation, and will not thrive, crowded with others; some are rather tender, and must have warm and sheltered places; others are very hardy, and will thrive planted anywhere; others, again, will not grow freely,

unless they are placed in low, damp ground ; and others do not flourish if much exposed to the rays of the sun. .

“ *The kind of Soil best suited for them.* — With respect to soil, hardy shrubs may be divided into two kinds, viz., first, shrubs requiring common soil ; and, second, those shrubs constituting the American garden. A rich, light, hazel loam, undoubtedly suits the greater part of the first class of plants, although many of the stronger-growing kinds will make fine bushes on almost any kind of soil. The American plants, *Kalmias*, *Rhododendrons*, *Andromedas*. &c., &c., make the finest plants and the best show, if they are planted in a soil composed for the most part of sandy peat ; but, in the absence of this, a very good compost may be made for them of light hazelly loam, river sand, and vegetable or leaf mould, equal parts, or a little peat earth mixed with it. After having taken out the original soil from the proposed border to about a foot and a half deep, substitute the above mixture in its place.

“ *To encourage the growth of the Shrubs after being planted.* — Whilst the plants are small, constantly keep down all rank-growing weeds, and clear off all rubbish that would otherwise retard their growth ; also they receive much benefit by the surface of the ground being often stirred with a Dutch hoe, as it prevents the surface baking hard in dry weather.”

Watering shrubs, except in peculiar situations, during dry summers, appears to be of very little if any benefit ; on the other hand, it takes up much time, and is the means of the ground baking hard when dried by the sun again. When they have advanced to a large size, all the care that is required is to cut off the overhanging branches, so as not to allow them to smother each other, or the stems of those overhung will become naked and unsightly.

A DESCRIPTIVE LIST OF BULBOUS-ROOTED PLANTS, WITH DIRECTIONS FOR THEIR CULTIVATION.

“Fair-handed Spring unbosoms every grace ;
Throws out the Snow-drop and the Crocus first ;
The Daisy, Primrose, Violet darkly blue,
And Polyanthus of unnumbered dyes ;
The yellow Wall-flower stained with iron-brown,
And lavish stock that scents the garden round.”

A N E M O N E.

Wind Flower — Garden Anemone.

“See ! yon Anemones their leaves unfold,
With rubies flaming, and with living gold.”

VERY little attention has been paid, in this section of the country, to the cultivation of this most beautiful flower, from the fact, probably, that it will not stand our winters, unless planted in a frame, or otherwise protected. With this precaution, and some little attention, it will abundantly repay all the labor that may be bestowed upon it.

I have succeeded very well, in its cultivation, by keeping the roots out of ground until March, and then planting them in a bed prepared in the fall, that had been kept covered till the time of planting. The roots of Anemones are solid, flattened masses, like those of ginger, and, like them, are multiplied by divisions of the root.

The *Anemone hortensis*, or garden Anemone, is the species from which all the fine varieties of the florist's flowers originated. More than one hundred and fifty choice varieties are enumerated in some of the Dutch catalogues of the present day, classed as follows : — red, or blood color ; rosy and white, flamed with purple ; sky blue ; purple or ash color ; rosy, with

green, and white, and agate. One hundred choicest varieties may be obtained for 50 francs, or about \$10.

A fine double Anemone should stand upon a strong, elastic, and erect stem, not less than nine inches high. The blossom, or corolla, should be at least two and a half inches in diameter. The outer petals, or guard leaves, should be substantial, well rounded, at first horizontally extended, and then turning a little upwards, so as to form a broad, shallow cup, the interior part of which should contain a great number of long, small petals, imbricating each other, and rather reverting from the centre of the blossom. There are a great number of small stamens intermixed with these petals, but they are short, and not easily discernible. The color should be clear and distinct when diversified in the same flower, or brilliant and striking if it consists only of one color, as blue, crimson, or scarlet, &c., in which case the bottom of the broad exterior petals is generally white; but the beauty and contrast are greatly increased when both the exterior and interior petals are regularly marked with alternate blue and white, or pink and white stripes, &c., which in the broad petals should not extend quite to the margin.

Propagation. — By dividing the roots for the fine sorts, and by seed for new varieties.

Soil and Situation. — The situation should be open, but not exposed to currents of air. As to the soil to grow them in, various are the composts prescribed by florists. They require a fresh, strong, rich, loamy soil. Hogg recommends fresh loam, with a considerable portion of rotten horse or cow dung. The bed should be dug eighteen inches deep, and filled with the rich compost, a little above the level of the walk; then lay a stratum of good rich mould, two inches deep, over the compost, on which to plant the roots, as the dung or very rich compost in contact with the roots would prove injurious rather than beneficial.

Planting. — After the bed is thus prepared, and has stood long enough to settle, the frame should be placed upon it. Fall planting is much the best, if the bed can be kept from

very severe frost, or if not kept so warm as to start the foliage. Late fall or early spring planting is the best.

The roots should be planted in rows six inches apart, and the same distance from each other in the rows. A little care is necessary, in planting, to place the roots right-side up. By close examination, the eyes, from which the stems and flowers are to proceed, can be distinguished, which, of course, must be planted uppermost. After the roots are placed on the bed, they must be carefully covered two inches deep with good sound garden mould. This is the proper depth. When the bed is all completed, the surface should be three or four inches above the walk. They will be in flower in June, and, if shaded from the sun, will continue to display their beauties a long time.

Taking up the Roots.—When the foliage begins to turn brown and dry, the roots should be taken up and dried in the shade. When properly dried and kept from moisture, they may be kept out of ground two or three years without injury.

A M A R Y L L I S.

Amaryllis formosissima, or Jacobean Lily, is a flower of great beauty. It is a tender bulb, but succeeds well when planted in May, in the open border, in a rich, sandy soil. The top of the bulb should hardly be covered with earth. The flowers are large and of a very deep red. The under petals hang down, the upper curl up, and the whole flower stands nodding on one side of the stalk, making a fine appearance. The bulb rarely produces more than two flowers, and more frequently but one, about one foot high, flowering in June or July. Upon the approach of freezing weather, the bulbs must be taken up, dried, and put away in dry sawdust, where they will be secure from frost.

CROCUS.

"Glad as the spring, when the first Crocus comes
To laugh amid the shower."

The Spring Crocus is a very common bulbous-rooted plant, of which there are many varieties annually imported from Holland, and sold at very low prices. The most prominent sorts are the great yellow, deep blue, light blue, white with blue stripes, blue with white stripes, white with a purple base, pure white, cloth of gold, &c. It flowers in April, and in warm seasons, in sheltered places, frequently in March. Where there is a plenty of them, they make a magnificent show. The bulbs are small, solid, and flat. They should be planted, in September or October, about one inch or one and a half inches deep, in any good garden soil. They are very hardy, and the only difficulty is their liability to be thrown out by the frost, when the ground is bare, towards spring. To remedy this evil, some light substance should be thrown over them, to shade them from the action of the sun. After flowering, when the leaves have decayed, the roots may be taken up, and kept, until they are wanted to plant in autumn, in some cool, dry place; or they may remain in the ground a number of years without removing.

DAHLIA.

"In queenly elegance the Dahlia stands,
And waves her coronet."

The Dahlia is a native of Mexico, found on the table lands of that country, and I have sometimes wished it had been let alone there, "to waste its sweets on the desert air." It is so capricious in its flowering, so subject to the ravages of insects, so much influenced by too much heat, or too much dryness, or too much wet; and then, just as it begins to give promise of

abundant bloom, having escaped all the casualties of the season, is cut down by the frost, and becomes a blackened, hideous object in the garden; that, after many disappointed hopes, I have sometimes been disposed to say, I would not try it again. It must be confessed, however, it is on some accounts desirable: the flowers are large, gorgeous in color, sporting into every tint except blue. The shape, too, is perfect, although a little too set and prim, as though it was made for the occasion. The habits of the plant are coarse and vulgar, and the smell thereof rather repulsive; but, with all its failings, it is a popular flower, — one which will find favor with the multitude.

It was first introduced into England in the year 1789, was but little noticed, and soon lost. It was reintroduced in 1804, then a single purple flower of not much interest. It is only within the last twenty years that it has received the attention of the florist. From the single purple and scarlet variety, all the numerous family of florists' flowers have been produced; a striking example of what may be done by patience and perseverance in the skilful cultivation of a simple flower.

The root is tuberous and tender. Freezing destroys it at once; it can, therefore, be planted only in the spring.

Propagation. — It is propagated by seeds, divisions of the root, and by cuttings.

By Seed. — If the seed is sown in a hot-bed, in April, and the plants set out in the open ground in June, most of them will flower the same season, and though not one in a hundred or thousand may come up to the standard of a perfect flower, yet it is very interesting to mark the curious sports which are often made in these seedings. Many of them will make a greater show in the shrubbery than the more perfect sorts. What is lacking in shape and size, is made up in the profusion of bloom.

By Divisions of the Root. — This is the most common mode of propagation, unless it be with the nursery-man, who raises from cuttings. It is best to place the roots, or stool, as it is called, before divided, on gentle heat, if the buds have not started; or

cover them over with a little earth, in a warm place, the beginning of May, so as to start the buds before the roots are divided. Without this course, it will be impossible to divide the tubers so as to be sure of a bud on each; and without a bud a tuber is worthless. The buds having appeared, clean the roots from soil, and with a sharp knife divide the stool in such a manner that a bud may be secured to each division. The smallest tuber, with a bud, will make a strong plant.

By Cuttings. — This process requires so much care and attention, that I must refer my readers to works on the subject of propagation.

Plants raised by cuttings have never succeeded so well with me as from divisions of the root. The reason may be, that in the propagation of new varieties, in the desire to realize as much as possible, weak shoots are taken, and forced so rapidly, and become so attenuated and weakened, that they never recover. True it is, that, after paying extravagant prices for new sorts, I have frequently been disappointed in not having a single bloom; and, what is worse, the roots may not get strength enough to stand through the winter, even with the greatest care.

Soil and Cultivation. — Too much has been said and written upon the cultivation of the Dahlia. After following the directions given by various amateurs and writers, and after taking much pains and care in cultivation, I have been chagrined to find that the refuse of my roots, planted without care, and very little manure, in yellow loamy soil, have far outstripped those on which more abundant pains had been bestowed. The Dahlia likes a humid atmosphere, such as we rarely have in this country. It frequently begins to flower, and promises well in July, but on the last of that month and August our scorching sun and arid atmosphere, together with the insects that prey upon it, operate so unfavorably that it hardly recovers before it is overtaken with frost. While I resided in Lancaster, my garden was situated on the banks of a branch of the Nashua River. In hot weather, a damp or mist rose from the

river every night, and gave my Dahlia plants a good wetting. I did not have any difficulty then with the Dahlia; it flowered in great profusion, having had nearly one hundred blooms upon a plant at one time. The mode of cultivation then was: first, a hole excavated two or three feet across, and about fifteen inches deep, the poor soil taken out, and its place supplied with the adjoining surface soil, then about two shovelfuls of strong manure, partly decomposed, from the stable, thrown in and well incorporated with the soil; then the stake for the support of the plant firmly fixed in the ground; then the surface levelled, and all was ready for planting. If tubers are used without being forced, they may be planted any time after the middle of May, covering the crown of the tuber about two inches, slanting the other end downwards. Plants, raised in pots or cuttings, may be turned into the ground any time in June. I have succeeded in producing fine flowers from dry tubers planted the first of July. As a general rule, let the soil be rich and deep; let the plants be well attended to by tying up to the stake, — which should be strong, and from five to six feet above the surface. As the plants advance, syringe the foliage every night in dry weather; sift over the plants fine air-slacked lime to kill the insects, if you can; mulch the ground about them; give them guano-water twice a week in August; and, if you are rewarded for your pains, it is more than I have been in most seasons.

Dahlias look best when planted in groups, as they hide each other's ugliness, and *if they flower*, and a variety of colors be combined in the group, they make a very imposing appearance.

Taking up and Preserving the Roots. — When the first frost strikes the Dahlias so as to blacken the plant, a few inches of soil should be added to the crown of the plant, to prevent the tubers from being injured by freezing, which might happen unexpectedly some cold night. Taking some pleasant day, the last of October or the first of November, the tops of the plants should be cut down near the ground, and the stakes pulled up.

Then very carefully lift the roots from the ground. This is best done by two persons, with spades, operating on each side of the roots, as when taken from the ground they are very brittle and easily broken off. Let them be carefully deposited on the surface, where they should remain during the day exposed to the sun and air. Before night sets in, they should be removed to a dry, airy cellar, and deposited on shelves raised a few feet from the cellar bottom; here they will remain with perfect safety, provided they can have a little air occasionally in pleasant weather. They should, however, be placed singly on the shelves; as, when they are packed close, or one upon another, they are liable to mould and decay. The most danger to be apprehended is from excessive dampness; but sometimes roots kept in a cellar where there is a furnace, may be injured by excessive dryness, and the roots become shrivelled and dried. There is no danger from rats or mice or any other creature. I never knew an animal to touch them. You could not catch an old rat even to smell of them the second time.



FERRARIA.

Tiger Flower.

The Mexican Tiger Flower, or *Ferraria pavonia*, and *F. conchiflora*, are flowers of exquisite beauty. The bulbs are tunicated, producing from one to four stems each, from eighteen inches to two feet high; the flowers are of short duration. It is born to display its glory but for a few hours, when the sun totally destroys all vestiges of its beauty; but, to compensate for this sudden decline, it continues to produce its flowers a number of weeks. The shape of the flower is singularly curious, and the coloring of each variety gorgeous. The flowers of the first-named variety are of the richest scarlet imaginable, variegated with a bright golden yellow. The ground-work of *F. conchiflora* is of the richest orange, varie-

gated with light yellow, and spotted with black. No flower can exceed it in beauty; but nature does not lavish all her sweets upon one flower;—in this there is no scent. The flowers are large, and produced in July and August. It is properly a green-house plant, but is easily cultivated in the open air. The bulbs should be planted about the middle of May, about two inches deep, in any rich garden-soil, and require no particular care. The bulbs and offsets should be taken up in October, and dried; but be particular not to expose them to frost while drying, or at any other time, as that would destroy them. They may be kept in dry sand, sawdust, or moss, until the time of planting in the spring. The mice are very fond of the roots, and, if they find them, but few, if any, will be left to plant.



FRITILLARIA.

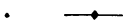
Fritillary.

The Crown Imperial, or *Fritillaria imperialis*, is supposed to be a native of Persia. There are many varieties; all handsome, varying in color; viz., bright yellow, scarlet, orange scarlet, double red, double yellow, gold-striped-leaved, silver-striped-leaved, &c. This species is less esteemed than its beauty merits, on account of its strong, and, to some, its disagreeable scent. It flowers in April; the bulb throws up a strong, vigorous stem, three or four feet high, producing near the top a crown of beautiful, drooping, bell-shaped flowers, making a very conspicuous object at a season when but few flowers grace the garden. Above the crown of flowers the stem terminates in a tuft of its glossy green foliage. The nectaries are very curious; each cell, six in number, contains a large drop, which looks like a brilliant pearl. When the flower decays, the seed-vessels take the reverse of the flower, and stand erect. The bulbs are large and fleshy, somewhat solid: they do not

keep well long out of the ground. When the stem dies down, the root should be taken up and replanted, if necessary; but this need not be done oftener than once in four or five years. They should be planted four inches deep, in a rich, deep garden soil.

The Persian Fritillary or Persian Lily, (*Fritillaria Persica*,) bears a spike of brownish-purple flowers, growing at the top of the stem in the form of a pyramid; they open in May; stems three feet high; bulb similar to the last, except more elongated. To be treated in every way like the Crown Imperial.

The Common Fritillary, or Chequered Lily, (*F. melegaris*,) is sometimes called the Guinea Hen Flower, on account of its chequered or spotted flowers. There are many varieties; the colors, various shades of brown, purple, and yellow, curiously mottled, spotted or chequered. The bulbs are about the size of the crocus roots, of the character of the other fritillary bulbs, but more flattened; stems eight or ten inches high, with one or more gracefully-drooping, bell-shaped flowers, in April or May; to be planted in groups in good garden soil, two inches deep. They should not be kept long out of the ground.



GALANTHUS.

Snow-Drop.

“Already now the Snow-drop dares appear,
The first pale blossom of the unripened year;
And Flora's breath, by some transforming power,
Had changed an icicle into a flower.”

Galanthus nivalis.—The Snow-drop is the earliest flower of all the garden tribe, and will even show her head above the snow, as if to prove her rivalry with whiteness. Every third year the roots should be taken up, in June or July, when the leaves are decayed and kept in a dry place till August, when they should be replanted. The bulbs are very small. To

make them look well and to produce a pretty effect when in bloom, about twenty should be planted together in a clump, one and one half or two inches deep. There is a variety with double flowers; both sorts desirable; about six inches high in March and April.

"The Snow-drop, who, in habit white and plain,
Comes on, the *herald* of fair *Flora's* train."

There is a flower called the *Leucojum*, or Great Snow-Drop, very similar to this, but twice the size. Of this there are three kinds: the Spring, the Summer, and the Autumnal Snow-drop. The bulbs are much larger; should be planted five inches from each other, four inches deep. "We look upon the snow-drop as a friend in adversity, sure to appear when most needed."

"Lone flower, hemmed in with snows, and white as they."

GLADIOLUS.

Corn-Flag.

Gladiolus communis is a hardy, showy border-flower, of which there are several varieties in cultivation, viz., white, purple, and red. They should be planted in October, on a rich sandy soil, about two and a half inches deep, and require little protection, except the purple variety. They have a flag-like foliage, and produce their flowers on long, one-sided spikes, or racemes, about two feet high, in June and July. The bulbs have some resemblance to those of the crocus, and are treated in the same way.

Gladiolus byzantium is also hardy, and requires the same treatment; flowers purplish-red. The *Gladiolus* family includes many brilliant species and varieties; most of them green-house plants. Many of them, however, succeed well in the open ground, when planted in the border in May; but it is necessary to take them up in October, and keep the roots dry,

and from the frost, till the time of planting again. All the species delight in a rich, light, sandy loam, and should not be planted more than one and a half inches under the surface.

Gladiolus natalensis, called by some *psittacinus*, has not been known many years among us, and was considered, when first introduced, as being very superb; but it has such a propensity to increase, that it has become very common, and is now looked upon with indifference. The flowers are scarlet, on a greenish-yellow ground, produced in long, one-sided spikes; the stems sometimes four feet high, with fifteen or twenty buds and blooms. In perfection in August.

G. natalensis has, within a few years, been eclipsed by the magnificent variety, *G. gandavensis*, producing long spikes of the most vivid scarlet flowers. I have had flowering stems four and five feet high, which threw out a succession of spikes of its rich and brilliant blossoms.

G. floribunda is another beautiful species, with a profusion of delicate pink flowers, marked with purple, about two or three feet high, in August. The treatment of all the tender varieties is similar; if they are planted in pots, forwarded in a hot bed, and turned into the open ground in June, they flower some earlier, and grow stronger.

There are other beautiful species and varieties, one of which is *G. cardinalis*, with scarlet flowers spotted with white, but most of them do not succeed well in the open ground.



HYACINTHUS.

Garden Hyacinth.

“Hyacinth, with sapphire bell
Curling backwards.”

“The youths whose locks divinely spreading,
Like vernal Hyacinths in sullen hue.”

The Hyacinth is a highly esteemed florist's flower, of easy culture, of which more than one thousand varieties are culti-

vated in Holland, forming quite an important item in the exports of that country, and from whence, Great Britain, the United States, and all Europe, receive their annual supplies, and, in fact, all parts of the world. Hyacinths are double and single; of various colors, embracing every shade of red, from a deep crimson pink down to white; of blue, from white to almost black, and some few yellow and salmon color; but the shades of yellow are not very brilliant, and appear yellow only in contrast with the white. Some of the white, and other light varieties, have red, blue, purple or yellow eyes, which add much to the beauty of the flower; and others are more or less striped or shaded; and some are tipped with green. The double varieties are generally considered the finest, but many of the single sorts are equally desirable, as what is deficient in the size of the bell is made up in the greater number of them; some of the single sorts are the richest in color.

The stem of a fine double Hyacinth should be strong, tall, and erect, supporting numerous large bells, each suspended by a short and strong peduncle, or foot-stalk, in a horizontal position, so that the whole may have a compact pyramidal form, with the crown, or uppermost bell, perfectly erect.

The bells should be large and very double; that is, well filled with broad petals, appearing to the eye rather convex, than flat or hollow; they should occupy about one half the length of the stem.

The colors should be clear and bright, whether plain red, white, or blue, or variously intermixed, or diversified in the eye; the latter, it must be confessed, gives additional lustre and elegance to this beautiful flower.

Strong bright colors are, in general, preferred to such as are pale; there are, however, many rose-colored, pure white, and light blue Hyacinths, in high estimation. Hyacinths begin to flower the last of April in this climate, and, if shaded by an awning from hot suns, may be kept in perfection the greater part of a month. They never require watering at any season; keep them free from weeds; as the stems advance in height,

they should be supported by having small sticks, or wires, painted green, stuck into the ground back of the bulb, to which they should be neatly tied ; otherwise, they are liable to fall down by the weight of the bells, and, as the stem is very brittle, it is sometimes broken off when exposed to storms.

The most suitable time to plant Hyacinths is in October and November. The finer sorts will appear to the best advantage in beds, while the more common varieties may be distributed about the borders where most convenient. The dimensions of the bed should be marked out, and the soil taken entirely away to the depth of two feet ; the earth on the bottom should then be dug and well pulverized, and the space above filled with the following compost : —

“ One third river or sea sand ; one third fresh, sound earth ; one fourth rotten cow dung, at least two years old ; and one twelfth of earth, of decayed leaves, or decayed peat. The fresh, sound earth of the compost should be of the best quality of what is called virgin soil, or that obtained from pastures or the roadside, well rotted ; or, if that is not obtainable, the best garden mould, free from noxious vermin of every description. These ingredients should be well mixed and incorporated a considerable time before wanted. About ten days before planting, the bed should be filled up with the compost, even with the path, or so as to be even when the roots are set. The surface of the bed should be raked perfectly smooth before planting, and the exact situation for every bulb marked on it as follows : —

R	B	W	R	B	W	R	B	W
W	R	B	W	R	B	W	R	B
R	B	W	R	B	W	R	B	W
W	R	B	W	R	B	W	R	B
R	B	W	R	B	W	R	B	W
W	R	B	W	R	B	W	R	B

The letters R, B, W, denote the color of the flower to be planted there, viz., red, blue, or white ; under these heads, all Hya-

cinths may be comprehended, except a few yellow sorts, which may be classed with the white." The bed should be four feet wide; the bulbs to be planted eight inches distant from each other in the rows, and to be covered four inches deep. First place about one inch of fine sand where each root is to be placed, then press the bulb into the soil nearly its whole thickness, and cover it completely with fine clean sand. Having completed the planting, the whole may be covered with sound, fresh, sandy earth, four inches deep. Before winter sets in, Hyacinths should be covered a few inches deep with leaves, straw, meadow hay, or any other light substances; they are, however, perfectly hardy, but the bloom is more perfect when thus covered. In selecting bulbs, be careful to procure good sound roots; for an imperfect root is not worth planting, and many there are, sold every year by thousands, at auction, which are generally the refuse of the Dutch gardens. A good root is perfectly hard, and bright, without specks of rot upon it, and one that has not pushed a bud. Roots of the finest varieties can be purchased for fifteen to twenty dollars per hundred, with their names and colors; and very fair sorts for less; and mixed sorts, with colors distinct, from six to ten dollars.

In about one month after the bloom is over, and the foliage begins to turn yellow, the bulbs may be taken up, cutting off the flower stems, but not the foliage, and, having prepared a sloping bed of light earth, the bulbs may be laid upon it, so as not to touch, with the foliage downwards, covering the roots and fibres with earth. Here they remain till the bulbs are sufficiently ripened, which will be in about one fortnight, when they may be taken up, and, after they have been dried, cleaned from the fibres, soil, &c., then wrapped up in papers, dry sand, or dry sawdust, and kept in a dry place until wanted for use. Or the roots may remain in the bed until the foliage has completely dried down, and then taken up, dried and cleaned, as before stated.

The Starry Hyacinth, or *Scilla Peruviana*, is a very pretty bulbous-rooted plant, with dark blue starry flowers in May

and June, worthy a place in the border in large collections of plants, — nine inches high.

The Grape Hyacinth, *Muscari moschatum*, is a pretty, hardy, bulbous-rooted plant, with dark, light blue, or white flowers, having a strong smell of musk. *M. monstrosum*, or Feathered Hyacinth, is a most ornamental, hardy border flower; the bulb is large, ovate and solid; the leaves narrow, a foot long, with obtuse points; the flower-stalks rise nearly a foot and a half high; they are naked at the bottom for about seven or eight inches, above which the panicles of flowers begin, and terminate the stalks. The flowers stand upon the peduncles, which are more than an inch long, each sustaining three, four, or five flowers, whose petals are cut into slender filaments, like hairs; they are of a purplish-blue color, and, having neither stamens nor germs, never produce seeds. *M. botryoides* is another pretty species, with varieties of blue, white, and flesh-colored flowers, all small, bulbous-rooted plants, obtained from Holland as species of Hyacinths, with solid bulbs, producing spikes of pretty, bell-shaped flowers a foot high, flowering in June. All are hardy, and may be planted in any good garden soil, about three inches deep, five or six roots in a group; they need not be taken up oftener than once in three years, and then should not be kept long out of the ground.



IRIS.

Flower-de-luce.

“The Flower-de-luce, and the round sparks of dew,
That hung upon their azure leaves, did show
Like twinkling stars, that sparkle in the evening dew.”

The Iris is a very extensive and beautiful family, claiming the whole world as her country. Some of the species have very large flowers, which, from their being very vivid, and several uniting in the same blossom, are extremely showy.

Many of them are bulbous-rooted ; of these we shall treat in this place, reserving the fibrous and most of the tuberous-rooted to describe under the head of herbaceous perennials. One of the most esteemed bulbous-rooted Iris, is the Persian, on account of the beauty and fragrance of its flowers. It is also very early, but not perfectly hardy. It is valued for forcing, as a few of its flowers will scent a whole room ; their colors are pale sky-blue, purple, yellow, and sometimes white. The Spanish Iris, or *I. xiphium*, is a very pretty border flower, of many varieties, all rich and elegant ; embracing the most delicate shades of light and dark blue, brown, purple, yellow, and white. Many of the varieties are various colored, striped or spotted ; the bulbs are small, tooth-like, sending forth rush-like foliage, with flowers in June, on stems about eighteen inches high. These bulbs, as well as the other species named here, should be planted about two and a half inches deep, in a light and rich garden soil ; the proper time is in October and November, and, excepting *I. susiana*, need not be taken up oftener than once in three years.

The English Iris, or *I. xiphoides*, is somewhat similar to the last, but more robust in its growth ; the bulbs are larger, and the stem two feet or more high, producing its flowers in June, which are as various in color as the Spanish, and as desirable for the border.

Iris chalcidonica, or *I. susiana*, is one of the most beautiful of the race ; it is not a bulbous root, but tuberous, imported with the bulbous kinds from Holland, and planted at the same time, and manner, except the soil should be of a more loamy character. It has the largest flowers of any of the species, and the most magnificent of them all. The colors of the flowers are of various shades of the richest purplish brown, beautifully mottled and spotted, so as to give it a very rich and unique appearance. It produces its flowers in June, on stems a foot high. It may be increased by parting the roots in autumn. This splendid flower is reputed to be tender ; but I have succeeded in planting it in October and November, and even in

December, with success, giving the same protection as to Tulips or Hyacinths ; but if the roots are suffered to remain in the ground after flowering, it will never bloom again, and most assuredly perish. Our season is too long for it ; if left in the ground through the summer, it commences growing in autumn, forms its flower buds before winter sets in, and dies. Observing this, I have taken up the roots the first of August, and kept them out of ground till the time of planting in autumn, with perfect success. After drying, the roots may be kept in dry sand or moss.



LILIUM.

The Lily.

“Have you seen but a bright Lily grow,
Before rude hands have touched it?”

“Queen of the field, in milk-white mantle drest,
The lovely Lily waved her curling crest.”

All the species of this splendid genus, with which we are acquainted, may be considered worthy of a place in every good collection of plants. Many of the species are well known, while a greater number are not often seen in our gardens.

The Lily is an interesting flower to the young florist as well as the botanist, on account of the simplicity of its structure and magnitude and distinct character of its different parts and organs. The root of the Lily, or what is generally denominated the root, is a scaly bulb, the scales being laid over each other in an imbricate form, inclosing the germ, or bud. The bulb is not a root, strictly speaking, but a bud containing the embryo of the future plant. The roots are thrown out from the bottom of these bulbs, or buds, and, unlike the fibres of the Tulip, are perennial ; and on their strength depends, in a great measure, the vigor of the future plant. Bulbs, long kept out of ground, are very much weakened, and a number of years will elapse before they recover strength to bloom in great per-

fection. After the flowering of the Lily, in August, the foliage of many species decays; the bulbs then are in the most perfect state for transplanting. If they are permitted to remain long after this, and the foliage begins to start again, they will not bloom so strong the next year. The Lily should not be moved any oftener than is necessary. It is not like the Tulip and many other bulbs, which are not injured, but rather improved, by taking them up annually after flowering. The Lily will do well in any well prepared border or bed. To have them in perfection, the soil should be excavated eighteen inches deep, and filled with a compost of peat, or swamp muck, undecayed manure, or leaf mould, a foot deep; the remaining six inches may be peat and rich mould. The bulbs of strong-growing Lilies may be planted from four to five inches deep; and weaker sorts from three to four inches. In the borders, three bulbs, of the stronger-growing varieties, are enough for one group, or five, of the weaker sorts. They have a pleasing effect when planted in masses; or they may be planted in beds. Most of the species are quite hardy; but they will all be benefited, and bloom more strongly, provided they receive a covering of rotten manure before winter sets in.

Lilium candidum. — The Old White Lily. — This species has always been considered the emblem of whiteness, and is too well known to require any description. A mass of White Lilies is always beheld with admiration, and they perfume the air with their delicious fragrance. The White Lily is, therefore, indispensable, and should be found in every garden. It sometimes attains the height of three or four feet, and is in flower about the first of July.

Lilium candidum flore pleno. — The Double White Lily. — A variety of the double white; it is curious, but not beautiful. The inflorescence appears to be a continuation of the foliage, which, as it terminates the stem, gradually assumes the character of petals, with the whiteness of the simple flower. It is a monster, and for that reason may be fancied by some.

Lilium candidum flore variegata. — The Variegated White

Lily. — This is another variety of the White Lily, and not very desirable. The purity of the white is destroyed by the dull purple stripes that mark the petals, and give it a dingy appearance.

Lilium longiflorum. — The Long-flowered White Lily. — This is a very beautiful and fragrant species, not quite so hardy as the common White Lily, but stands the winter well, when protected. The flowers, pure white, very long and large, produced in July.

Lilium martagon. — Turk's Cap Lily. — There are many varieties of this species; some with pure white, others with purple, spotted, or variegated flowers. The petals are very much reflexed, giving them the appearance of caps. In strong soil, and the roots well established, the stems are sometimes thrown up from three to five feet, producing twenty or thirty flowers, flowering in July.

• *Lilium candidum folia variegata*. — The Gold-striped Lily. — There are two varieties of garden White Lily with striped leaves, one having yellow, the other white striped foliage; both pretty in a collection.

Lilium umbellatum. — The Umbel-flowered Orange Lily. — This is a strong-growing species, producing quite a number of large, upright orange flowers, with rough interior. In contrast with the White Lily, it makes an imposing appearance. It flowers about the first of July.

Lilium auranticum. — The Dwarf Orange Lily. — More dwarfish than the last; about two feet high, with three or four upright orange flowers on a stem; in flower in July.

Lilium tigrinum. — Tiger-spotted Lily. — A very common, strong-growing species; but very showy, having fine, reflexed, orange flowers, with black spots. It has the peculiarity of producing small bulbs in the axil of the leaves. It grows from four to six feet high, flowering in August, and is a suitable plant for the shrubbery as well as the border. It is very easily propagated, as all the axil bulbs, when planted in the ground, soon produce flowering plants.

Lilium pomponicum. — Scarlet Pompone Lily. — This is a beautiful species, with scarlet reflexed petals, flowering in June and July. It is rather a shy flowerer, and has not flourished so well with us as some other sorts.

Lilium chalcedonicum. — Scarlet Martagon Lily. — This is another fine scarlet lily, with reflexed petals, growing three or four feet high, and flowering in July.

L. pyrenaicum, with reflexed yellow flowers, with scarlet anthers, we have in our collection; very pretty, but producing only from one to three flowers in each stem. Among other beautiful varieties, or species, are *L. catesbaei*, a native of the south, with orange-colored flowers, and dwarf in its habits. *L. Carolinense*, from Carolina, somewhat like *L. superbum*; *L. monadelphum*, a species of Martagon, from Caucasus; *L. croceum*, *pumilum*, and many others, which may be obtained from the Dutch florists. Lily bulbs, when transported from Holland, are so much weakened, from being kept so long out of ground, that more than one half of them perish; and the few that vegetate stand a number of years, frequently, before they get strength to bloom.

Lilium Japonicum. — The Japan Lily. — This magnificent species of Lily, and its varieties, have been introduced but a few years, and, until lately, treated as green-house plants. They are found to be as hardy as our common Lilies, and will, therefore, prove a great acquisition to the garden. The variety *speciosum* has a pink and white frosted ground, finely spotted with deep crimson; *L. lancifolium album* is pure white; each variety with reflexed petals. These Lilies emit an exquisite odor. I have seen plants five and six feet high; they were, however, grown in pots in the green-house. These bulbs have commanded extravagant prices; consequently are found in but few collections. As the price is now greatly reduced, we hope soon to see them more common. The following account is from an English paper; and, as the directions for their culture will be applicable to us, we insert it, with some omissions:—

“Few plants of recent introduction are more handsome or

attractive than the Japan Lilies. They produce a gorgeous display, either in-doors or out; and, as they are quite hardy, they may be liberally planted in the open border, and thus constitute one of our best autumnal flower-garden plants.

“Their propagation is simple and certain. The bulbs may be separated, and each scale will eventually form a new bulb. This separation should be effected when the flower stems are withered. The scales should be stuck into pans of silver sand, and placed in a cold frame or pit. After remaining one season in this position, they should be planted in a prepared bed of peat soil, and a little silver sand intermixed with it; thus treated, the bulbs will soon grow large enough to flower.

“The cultivation of them in pots is by no means difficult. I shall detail the practice I have pursued with success for some years. Immediately when the bulbs go to rest, in the autumn, is the proper time to repot them. By no means destroy the old roots, but carefully place them amongst the fresh soil. If large examples, for particular display, are required, large pots may be employed, and half a dozen flowering bulbs placed in each pot. The soil I use is rough peat. The pots should be well drained, and the crown of the bulb just covered with the soil; when potted, they should be placed in a cold pit or frame, in order to prevent the soil from freezing, although frost will not injure the bulb. Where room under glass is an object in winter, they may be plunged in the open air in coal ashes, in a manner similar to potted Hyacinths. I have at this time a large number coming into flower, which have never been under glass until within these few days; they have sustained no injury from exposure, and they present every appearance of making a grand display. There is scarcely any plant which is so much benefited by liquid manure as the Lily; more especially before expanding its flowers. If used in a clear state, and considerably diluted, this water alone may be applied for at least a month before it comes into flower.

“If the object should be out-door cultivation entirely, I should recommend them to be planted in beds; their effect is

exceedingly grand. Excavate the soil eighteen inches deep, and fill in the bottom, a foot deep, with very coarse peat, intermixed with one fifth of decayed manure or leaf mould. The remaining six inches may be entirely peat. If the bulbs are large enough to bloom, plant them twelve inches apart every way; and if beds of each kind are brought into contact with one another, the effect will be magnificent.

"The following are the kinds I cultivate: *Lilium lancifolium album*, *L. punctatum*, and *L. speciosum*. The old *Japonicum* is also well worth growing."

All our native Lilies are beautiful, and very much improved by cultivation. While we are bringing together, from the ends of the earth, the treasures of Flora, let not our own be neglected. These may be taken from our fields and meadows, when in bloom, by carefully taking them up with a ball of earth, and in a few years will richly repay the trouble.

Lilium superbum. — Superb Lily. — One of the most magnificent of our native plants; not common in the vicinity of Boston, but in many parts of the state and in New York in abundance. Stem erect, straight, from three to six feet high, bearing a large pyramid of orange-colored flowers, not unfrequently numbering, when cultivated, thirty or forty. The flowers are much reflexed. They are found in many varieties, with flowers from a yellow to an orange scarlet; in bloom in July.

Lilium Canadense. — Nodding Meadow Lily. — This fine Lily may be found embellishing our meadows in June, when it rarely produces more than from one to five modest, nodding, but showy, flowers, on stems one to three feet high. It is very much improved by cultivation, and, when planted in rich ground, has been known to grow five feet high, with a pyramid of at least twenty of its pendulous flowers; color from yellow to deep orange scarlet. The flowers are profusely spotted with brown, on the inside, and are but little reflexed.

Lilium Philadelphicum. — The Common Red Lily of our pastures and dry fields; equal, if not superior, in beauty, to

the *Canadense*, but of a different habit. Its height rarely exceeds two feet, with one to three flowers, supported on a long claw; upright, of a dark vermilion color, richly spotted with black. The flowers are bell-shaped; in bloom in July.

The character of this species will no doubt be as much improved by cultivation as *Canadense*. It will then form one of the most showy ornaments of the garden, as the color of the flower is rich and brilliant. If ten or fifteen flowers can be produced on one stem, the effect of a group of plants will be surpassingly rich.



NARCISSUS.

Common Daffodil; some species, Jonquilles.

“No gradual bloom is wanting; from the bud,
First born of the spring, to summer's murky tribes:
Nor Hyacinths of purest virgin white,
Low bent, and blushing inward; nor Jonquilles,
Of potent fragrance; nor Narcissus fair, •
As o'er the fabled fountain hanging still.”

Named from the youth Narcissus, who, as the poets tell us, was changed into this flower.

This family are mostly hardy, bulbous-rooted plants, many of them too well known for description; all suitable to ornament the garden. They may be planted in October or November, in any good garden soil, about three inches deep, and need not be taken up oftener than is necessary to separate the roots when they become matted together, as they will in three or four years.

The Two-flowered Narcissus, Pale Daffodil, or Primrose-peerless, is of a pale-cream color, with a yellow cup in the centre; a very pretty species. Of the Common Daffodil, there are many varieties, with a white flower and yellow cup; a yellow flower and deep golden cup; a double flower, with several cups one within another; the Great Yellow Incomparable, double and single. The double variety is called Butter and

Eggs Narcissus, by the English, and by the Dutch, Orange Phœnix, and is considered the handsomest of all the species. It has large and small petals ; the large, lemon color, filled in with small orange-colored ones. All these species flower the last of April.

The Great Jonquille is yellow ; the scent of it so powerful as to be hardly endured. This, with the Common Jonquille, are altogether yellow ; but the last-named has a cup deeper colored than the petals. There is variety with double flowers. There is a species called the Hoop-petticoat Narcissus, called in France Medusa's Trumpet, of which the cup is two inches long, very broad at the brim. Of this, there are a number of varieties ; one, pale citron color ; another, darker and larger ; both curious and pretty ; in flower first of May.

The White, or Poet's, Narcissus, has a snow-white flower, with a pale-yellow cup in the centre, fringed on the border with a circle of reddish purple. It is sweet-scented ; in flower last of May. There is a variety with double flowers ; these are the most desirable of the tribe.

The Polyanthus Narcissus is the most desirable of all ; but, alas ! it is not so hardy. It requires to be planted five inches deep, and well protected, to do well. The bulbs are quite large. The flowers are produced the last of May, in trusses of from six to twenty flowers. There are many varieties of this flower. Some have entirely white flowers ; others, white, with yellow, citron, or orange cups ; yellow with yellow ; and entirely yellow or orange-colored flowers. There is a variety with double flowers. This species of Narcissus succeeds well when grown in pots ; or it is fine for flowering in glasses.



PÆONIA.

Peony.

This interesting genus contains many magnificent flowering plants, embracing at least one hundred varieties and species,

all of which are desirable for the border, and perfectly hardy, standing one winter without protection. Most of the genus is herbaceous. *P. Moutan*, and its varieties, are shrubby; their roots are fleshy, but not so distinctly tuberous as most of the herbaceous species. All require nearly the same treatment. The time for dividing the herbaceous sorts is in September or October; the whole stool should be taken up. With a sharp knife it may be divided into as many pieces as there are tubers with buds; it is necessary that a bud be preserved on each tuber. At this season of the year the Peony is in a dormant state; the buds are just beginning to show themselves, and, if delayed long after the first of October, the new fibres begin to push, and the plant will be less likely to flower the coming spring. The Peony roots should not be disturbed in the spring, unless it be very early, as it does not succeed well when transplanted at that season, without a ball of earth adhering to the roots. The tubers should be planted in a deep, rich, light, garden soil; the crown, or bud, should be placed three inches below the surface. The species of the Peony have been so much changed by the florist, that it is difficult to draw the line of botanical distinction with any degree of accuracy; and, for floral purposes, it is not necessary.

Pæony officinallis. — This is the old Double Crimson Peony, familiar with every one as a household friend. When first introduced into Antwerp, two hundred and fifty years ago, the plant sold for twelve crowns, — a large sum for those days.

The varieties of this species are *P. rosea* with rose, *P. blanda* with blush, *P. rubra* with red, *P. carnesens* with flesh-colored, *P. albicans* with white, flowers. This class of Peonies flower the last of May and the first of June.

P. tenusfolia, or fennel-leaved, with fine leaves like fennel; in flower the first of May; it is of a deep crimson color, and, when in bud, very beautiful. There is a double variety of this sort.

P. hybrida is a hybrid between the last and *P. decora*, and very pretty; flower deep red.

P. paradoxa is a double variety, or species with purplish red flowers; blooms last of May.

P. decora, *grevilli*, and *corallina*, have large, single flowers, purplish red and red; in bloom the middle of May.

P. Siberica is one of the finest species; the flowers are single, but in clusters, and very showy; white, shaded with pink; blooms 1st of June.

P. alba flora, *P. Tartarica*, and other Chinese and Tartarian sorts, are the parents, probably, of a splendid race of late flowering Peonies, denominated the Chinese. They are in bloom about the middle of June. To enumerate and describe all would occupy too much space. *P. Whitleji* has large double white flowers. *P. Humeii*, double lilac-red. *P. rosea* has large double rose-colored; rather later than the two last. *P. Reevesii*, semi-double purple. *P. Pottsii*, semi-double lilac-rose. These are some of the more common sorts, but all beautiful.

Among those of the more recently introduced sorts, are *P. sulphurea*, with pale yellow flowers. *P. Duchess de Nemours*, with the broad exterior petals a blush white, while the centre is filled up with numerous fine petals of a sulphur color; quite a novelty. *P. prolifera-tricolor*. *P. triumphans*. *P. grandiflora carnea*. *P. festiva*. *P. plenissima variegata*. Many other new varieties might be named, all desirable for the border, or to be planted out in a quarter by themselves.

Pæony Moutan, or the Tree Peony, and its varieties, are magnificent plants, with flowers of various shades of red, lilac, light purple and white, measuring from four to eight inches in diameter, all of easy culture; very hardy, requiring but little protection. The variety *Banksie* is one of the most common kinds. I have had a plant of this with from seventy to eighty flowers upon it at one time, presenting a splendid sight. The flowers vary on the same bush: some of them are very double, of a light pink color, fading, as they open, to a faint blush, or white towards the edges, and at the base deepening to a purplish red; others are semi-double. Some flowers will be of a deeper pink; variations take place also in the size of the

flowers, according to the strength of the plant. The shrub is rarely seen more than four feet high, but it becomes very large in circumference, bushing out from year to year, growing into a very regular, hemispherical shape. It is in flower the last of May, with all the other varieties or species.

P. moutan papaveracea, or Poppy-flowered Tree Peony, is also a splendid plant, having large, single, white flowers, sometimes ten inches in diameter. The petals are flat, with a deep purple spot at the base of each. These spots are rayed about an inch and a half long, from the centre, forming a rich, brilliant star in the middle of the flower; the bright yellow stamens add to the beauty of the flower, forming a fine contrast with the purple and pure white. It is a very desirable plant. There is a variety of this, with semi-double or double flowers.

P. moutan papaveracea rosea is a variety with fine rose-colored flowers, and one of the same color with double flowers; not very common.

A great number of new and expensive varieties of the Tree Peony have been exhibited, within the last two years, at the Horticultural Rooms. Some of these varieties do not exceed in beauty those I have described, while others are much superior. I will refer my readers to the reports of the Massachusetts Horticultural Society, for descriptions of their new sorts. For one or more of them, two hundred francs were paid; more, I dare say, than any one else would be willing to expend for one small plant.

The woody Peonies may be propagated by seeds, suckers, layers, and by grafting. The common and most simple way is by suckers. These may be often found growing from old wood, when standing in the open border. The wood is very hard, and will require a sharp, strong knife; a fine saw is often useful in the operation. October is the best time to divide the plants. In the first place, take away the soil carefully from the roots so as to see how the sucker can be taken off to the best advantage, and not injure the old plant, and to give a portion of the root to the young plant. When detached, the sucker may be

planted where it is destined to stand, in a rich, mellow loam. When propagated by layers, the outer shoots are bent down into the soil in the spring; but before they are fastened down with a hook or pegs, a longitudinal split should be made in the inner side of the bend; this should be done with great care, as the shoots are extremely liable to be broken off where they bend. It takes two years for a layer of the Peony to be sufficiently rooted to be detached. If seed is saved, it should be planted as soon as ripe in autumn. I have not raised the Peony from seed, but probably it would appear above ground the next spring, and in the course of a few years produce flowers, and perhaps a new variety. It is best to cover the crowns of all varieties and species, in autumn, with coarse stable manure; the plants flower stronger for it.

With a collection of Peonies of the different sorts, the garden will not be without some of the kinds being in bloom from the first of May to the first of July.

RANUNCULUS.

Ranunculus Asiaticus.

The Asiatic Ranunculus is one of the most splendid class of florist's flowers in cultivation; but, unfortunately, our climate is so uncongenial for its perfection, and requires so much skill and care, that it has received but little attention in the vicinity of Boston, except by a few individuals. To have this splendid flower in all its beauty and strength, it should be kept growing very moderately all winter; but our climate is so severe that this is impossible, in the open air, without too much covering, which would cause the plants to become drawn and weakened in such a manner as to be ruined. In a green-house, this may be done; but how shall they be managed in the open air? Samuel Walker, Esq., President of the Massachusetts Horticultural Society, has been the most successful of any other

person in this neighborhood, in blooming the *Ranunculus* in the open air. I shall therefore give his directions, as published in Hovey's Magazine, August 3, 1844.

“ DIRECTIONS FOR THE CULTIVATION AND PLANTING OF THE
RANUNCULUS.

“The soil should be trenched eighteen or twenty inches, and composed of good rich loam, to which add one sixth part of very old, well rotted cow-manure, and the same quantity of clay, broken into small pieces; add to this a little sand, and thoroughly mix the whole; if the soil binds, add some sandy peat; make the bed on a level with the path or walks; the plants would do better if the bed was *below*, rather than above, the level.

“Having prepared the soil, as above, some time during the summer or autumn, take the earliest opportunity, in the spring succeeding, to stir up the bed one spit, and take off one and a half inch of the soil; then place the plants in an upright position on the surface, six inches apart each way, and replace the soil carefully, which will cover the crown of the *Ranunculus* about one and a half inch; deeper planting would be injurious. After the plants appear, keep them free from weeds, and press the soil firmly around them after they get two inches high. If the weather prove dry, water them freely early in the morning, and shade them from the sun from nine A. M. to three o'clock, P. M. As soon as the foliage becomes yellow, take the roots up, and dry them thoroughly in the shade, and keep them in a dry place.

“The *Ranunculus* loves a cool and moist location, but no stagnant water should be permitted, nor should they be placed under the shade or drippings of trees. The morning sun, free circulation of air, and shade, as directed, will ensure success.”

The root of the *Ranunculus* is a cluster of small tubers, like claws, united in the crown, which send up several bipartate leaves, and an erect, branched stem, eight or twelve inches

high, with a terminating flower variously flowered. Unless good varieties are obtained, and the roots sound and plump, it is best not to attempt their cultivation. The varieties are endless, — of every color and combination of color that Flora paints with.

A fine double *Ranunculus* should have a well-formed blossom, at least two inches in diameter, hemispherical in shape, the petals imbricated in regular shape, — the largest outside, and gradually diminishing in size as they approach the centre of the flower, which should be well filled with them. The petals should be broad, with entire, well-rounded edges; their color should be dark, clear, rich or brilliant, either consisting of one color throughout, or be otherwise variously diversified, on an ash, white, sulphur, or fire-colored ground, or regularly striped, spotted, or mottled in an elegant manner.

There is another species of *Ranunculus*, called Great Turban, or Great Turkey *Ranunculus*, producing large, double, and very brilliant flowers. The roots are similar to the other species, and the mode of cultivation the same. The varieties are not so numerous; the colors are crimson, yellow and brown, yellow, white speckled, dark brown, &c.

TUBEROSA.

Polianthes Tuberosa.

“The Tuberose, with her silver light,
That in the gardens of Malay
Is called the mistress of the night;
So like a bride, scented and bright,
She comes out when the sun’s away.”

The Tuberose is a tender tuberous-rooted plant, with linear leaves of whitish green, and stems four or five feet high, terminating in a sparse spike of white flowers, of very powerful fragrance, which display themselves in August. It is properly a green-house plant, but will grow and flower in warm situa-

tions in the open air, when planted about the middle of May, but succeeds better when planted in pots, in March or April, and brought forward in a hot-bed or green-house, and planted in border the middle of June. It delights in a rich, sandy loam. The top of the tuber should be near the surface of the soil. The tubers are generally surrounded with numerous offsets. It is recommended by some gardeners to break them off; but I am inclined to believe that it is rather prejudicial to the bloom than otherwise, and my practice is to let them remain. Strong-grown roots only will bloom. The double variety is the most desirable, though both are equally fragrant. The Tuberose is propagated from the offsets taken off from the parent tuber, and planted in a light, rich soil. As soon as the foliage is killed by the frost in autumn, the roots should be taken up, dried, and packed away in dry sand or moss, till wanted in the spring, but they must be kept secure from frost.

TULIPĪA.

Garden Tulip.

“Then comes the Tulip race, where beauty plays
Her idle freaks; from family diffused
To family, as flies the father dust,
The varied colors run; and while they break
On the charmed eye, th’ exulting florist marks
With secret pride the wonders of his hand.”

The Tulip is a flower of easy cultivation. The varieties are endless. With the early and late varieties the garden can be made very gay all the month of May.

These flowers became, in the middle of the seventeenth century, the object of a trade for which there is no parallel, and their price rose beyond the precious metals. Many authors have given an account of this trade, some of whom have misrepresented it. One author called it the Tulipomania; at which people laugh, because they believe that the beauty

and rarity of the flowers induced florists to give such extravagant prices. But this Tulip trade was a mere gambling commerce, and the Tulips themselves were only nominally its objects, many bargains being daily made, and the roots neither given nor received. In Holland and Belgium the passion for Tulips among the florists became an absolute madness. Many thousand francs have often been given for a single root, and the amount of this article of commerce, in 1637, rose to some millions of francs. At the period of this effervescence, properties of considerable value were given for a single flower, and a memorable monument of this outrageous folly is still exhibited at Lille, in the Tulip Brewery, which, it is said, though valued at 30,000 francs, (\$6000,) was given by its proprietor for a single root. At last the Tulip mania became so overpowering that the government of Holland, convinced of the evil effects which might result from it, were obliged to interfere, and to pass laws of great severity against such transactions, limiting the extent of the amount for any one bulb to 200 francs. To this day, a few of the choice and rare varieties are priced at that sum in the Dutch catalogues. During this Tulip fever, a merchant in Holland gave a herring to a sailor who had brought him some goods. The sailor, seeing some valuable Tulip roots laying about, which he considered of little consequence, thinking them to be onions, took some of them unperceived, and ate them with his herring. Through this mistake, the sailor's breakfast cost the merchant a greater sum than if he had treated the Prince of Orange.

Another laughable anecdote is told of an Englishman, who, being in a Dutchman's garden, pulled a couple of Tulips, on which he wished to make some botanical observations, and put them in his pocket; but he was apprehended as a thief, and obliged to pay a considerable sum before he could obtain his liberty. A bed of two hundred and fifty Tulips, of the finest varieties, at the present time, cannot be obtained without a considerable outlay; and there are few, who have the means or the fancy, who are willing to be at the expense.

with a spade, gradually cover the bulbs with the surface soil, until the bed has been raised four inches above the level of the walk. This will cover the bulbs about three and a half inches, the proper depth. Let it be carefully smoothed off, but not with any instrument that will interfere or put out of place any of the roots which have been set. All the care necessary, after this, is to throw some light protection over the beds before winter sets in, to be removed by the first of April. Afterwards, keep the bed free from weeds. To have the flowers in the greatest protection, screen them from the sun, in mid-day, by an awning. A powerful sun soon destroys the beauty of a Tulip bed, by causing the colors to run together. A bed of late Tulips is generally in its highest perfection about the 20th of May, and may be kept in fine condition a fortnight longer, by taking the trouble to erect an awning over them. I take up my Tulips about the 20th of June, and dry them under cover, in an airy place, and, when dry, take off the offsets and plant them out, while the flowering roots are each wrapped in a piece of waste paper, and put away, in a box or drawer, in a dry place, until wanted to plant. One hundred different varieties, with their names and colors, reputed to be the very best, may be obtained from Holland, at the cost of about \$25; but I have found, by experience, that some of the rarer and most expensive sorts are not included. Very good border Tulips, including fine double sorts, early and late, single, parrots, &c., may be obtained from 50 cents to \$1 per dozen, and some of the common sorts at much less price.

Tulips sometimes succeed very well, in any good garden soil, without extra preparation. The Duc Van Tholl Tulips, single and double, are some of the most esteemed early sorts, the single being the most suitable, and about the only one that succeeds well in pots and for forcing.

The sorts that are planted in the borders may be set in groups of from three to five bulbs. These need not be taken up oftener than once in three years. Separate the offsets, as they become so crowded that they will not flower well, and

besides, as the new bulb is formed every year, below the old one, the roots will penetrate so deep, that, if permitted to remain many years, they become so weakened they will not flower at all.

DIRECTIONS FOR THE FLOWERING OF DUTCH BULBS IN POTS OR GLASSES.

“Hyacinths may be planted in pots from the latter end of October until December. The soil used should consist of about one third of white or river sand, and the remaining two thirds equal proportions of vegetable mould and loam. The pots should measure about six inches across the top. When the bulbs are planted, the pots are to be lightly filled with earth ; then the bulb may be placed in the centre, and pressed into the earth, so that it may be about half covered. After this, the earth should be made solid all around the sides of the pot, to fasten the root. When the bulbs are thus potted, they should be removed into a cool place, in order that they may become well rooted before the tops shoot up. Much light is not necessary at this period ; indeed, this deprivation of light causes them to root more quickly than they would otherwise do. For the first fortnight or three weeks after potting, they may be placed upon a shelf in a shed or a cellar, or in any other convenient place, providing it be cool. Little water is also requisite ; once watering, immediately after the roots are planted, being sufficient, if the situation is tolerably damp where the pots are placed.

“If the stock of bulbous roots, such as Hyacinths, Narcissus, early Tulips, &c., be large enough to occupy a small frame, the pots may be put within it after planting, and they may be covered a few inches deep with rotten tan, or any other light material. The pots will soon become well filled with roots, and the shoots produced by bulbs previously well rooted will be stronger, and the flowers larger, than if they had been put in a warm and light situation. When they are rooted, a few may be introduced occasionally into the room window, or on the mantel-

piece, if there be sufficient light. Light is quite essential when the tops begin to grow. By this means a succession of flowers may be had during the greater part of the spring.

“ If it is wished to bloom Hyacinths in water-glasses, the glasses should be filled up with water, but not so high as to come in contact with the bulb. Too much moisture before the roots protrude might cause the bulb to decay. The glasses may be put in a light, but cool situation, until the roots are grown half the length of the glass, at least. The longer the roots are before being forced into flower, the finer the flowers will be ; and when rooted they may be kept warm or cool, as flowers are required in succession. The flowers will not put forth, even when the glasses are filled with roots, if they are kept in a cold place. The water should be changed about twice every week, and rain or river water is better than spring water. Although the practice of growing bulbous roots in water is common, it is by no means preferable to growing them in earth. There are many failures when bulbs are grown in water, which are chiefly caused from their being more liable to rot before they begin to emit roots, than when grown in soil. Keeping the bulbs quite clear of the water is a partial, but only a partial, preventive. Another cause is, that when the roots have attained some length, they frequently decay, and the loss of the flowers is the consequence. Should success attend the growing and blooming of the greater part of those placed in water-glasses, the bulbs will be good for nothing afterwards ; but those grown in pots might be planted the year following in the garden, and they would make pretty border flowers for several years.

“ Similar treatment to that now described is required for the large-rooted *Narcissus*, whether in pots or glasses.

“ To force early Tulips in pots, they should be placed about three or four in each pot, just within the earth, which may be of the same sort, and the management the same as recommended for Hyacinths and *Narcissuses*.

“ *Crocuses* will force well. They should be planted near together, say from ten to twenty in a pot, according to its size.

Let them root naturally after planting, before they are forced into flower. They require similar treatment to the preceding.

"In order that bulbous roots, which have been forced, shall not be quite exhausted, they may be planted in the garden, with the ball of earth entire, as soon as the flowering is over, if the weather is favorable. They will thus mature their roots and leaves, and be strengthened sufficiently to bloom again the following season. If bulbs are neglected when their flowering season is over, they will not recover such neglect for a considerable time ; but if carefully placed in the garden till their leaves become yellow, when the root will be matured, they may then be taken up and kept in a dry, cool place until they are wanted the following season for planting."

DESCRIPTIVE LIST OF PERENNIAL AND BIENNIAL, HERBACEOUS, BORDER, AND OTHER FLOWERS.

"Not useless are flowers ; though made for pleasure,
Blooming o'er fields and wave by day and night ;
From every source your sanction bids me treasure
Harmless delight."

ACHILLEA.

Milfoil.

A. ptarmica. — Sneezewort. — This is a desirable border flower, particularly the double variety, as it continues in bloom most of the season, throwing up a succession of its double white flowers in corymbs, on stems about one foot high. The foliage is dark shining green. It is very hardy, and easy to cultivate in almost any common soil.

A. aurea, or golden-flowered, has rich yellow flowers, but not so hardy as the last.

We have a native species, *A. millefolium*, known by the common name of Yarrow ; of this I found a variety with pink flowers, which is now in my possession, and is desirable in a collection.

ACONITUM.

Monkshood — Wolfsbane.

The common Monkshood is a well known inhabitant of the garden. There are many species, all handsome perennial border flowers. They may be increased by parting the roots, which are of a tuberous character, every piece of which will grow. This should be done soon after they have done flowering ; and the stalks should be cut down at the same time. They like shade and moisture. Most of them have blue flowers, but

there are also white and yellow. The flowers grow in spikes, which, in some species, are two or three feet long. The family of Aconites have a bad reputation. The ancients, who were not acquainted with mineral poisons, regarded this plant as the most violent of all. The virulence of *A. napellus* (common Monkshood) should be known to all. The root is the most powerful part of the plant. An instance is on record, of five persons, at Antwerp, who ate of the root by mistake, and all died. Instances have occurred, of death by eating the young shoots in a salad instead of celery. This plant, when used with skill and caution, is in some cases a valuable medicine. This species flowers in July and August.

A. variegatum is a beautiful variety, throwing up branching spikes of flowers in July and August, three and four feet high; the flowers are light blue, edged with white.

A. japonicum has dark blue flowers, on spikes four and five feet high, during the month of July and August.

A. rostratum is a beautiful species, with purple flowers, three or four feet high — in July and August.

ACTÆA.

This is an indigenous perennial plant, suitable for the shrubbery, found in the woods. There are two species or varieties: — *A. rubra*, with shining red berries, and *A. alba*, with milk-white berries, tipped with red. Both kinds have white flowers, in spikes, in May. The berries, as well as the flowers, are ornamental. They require a peaty soil, and flourish best in the shade; about two or three feet high.

AGROSTEMMA.

Rose Campion — Mullen Pink.

A common, showy border flower; not a perfect perennial, but easily kept by dividing the roots. It is also propagated from

seeds, which flower the second year. The common variety has deep red flowers, and another variety with white, or white with a pink centre. It flowers in June and July; about one and a half feet high.

ADONIS.

Adonis vernalis is a handsome perennial border plant, one foot high, producing yellow flowers in May or June. It is a native of the South of Europe. It succeeds in any common garden soil, if not too heavy.

ALYSSUM.

Alyssum saxatile,—Rock or Golden Alyssum,—is a desirable vernal flower, of dwarf habit, proper for rock-work, or to be planted in masses; the flowers are of a brilliant golden yellow, completely covering the plant, which is not more than eight or ten inches high. It is a suitable companion for the *Phlox stolonifera*, with its red flowers, *P. subulata*, with pink or white flowers; all which appear together the first of May. Raised by seeds or by slipping the roots.

ALTHÆA.

“And from the nectaries of Hollyhocks,
The humblebee, e’en till he faints, will sip.”

Althæa rosea.—Chinese Hollyhock.—A great improvement has been made in this old-fashioned, ordinary flower, within a few years, that has brought it before the public under a new phase; and it now bids fair to become as popular as many other flowers have been when taken in hand by the florist. The following is an extract from an English paper:—

“*Hollyhocks*.—If I were not afraid of advancing a horticultu-

ral heresy, I should say that many amateurs prefer Hollyhocks to Dahlias. The Hollyhocks of Belgium and Germany had a great celebrity long before they appeared among us. The collections of the Prince of Salm Dyck, and of M. Van Houtte, of Ghent, have been much admired. In other places varieties have been obtained with leaves more or less lobed, more or less entire, more or less palmate, all with flowers large, full, or colored differently from those of other plants, being sometimes of a more or less dark mahogany color, at others of a delicate tint, and varying from the purest white to the darkest glossy black. Some progress has also been made in the cultivation of those plants by themselves. Since 1830, M. Pelissier, jun., a gentleman of Prado, has cultivated Hollyhocks, and from the seeds of a pink variety has succeeded in obtaining plants with flowers of a delicate rose color, and which, in consequence of the extreme delicacy of their tints, and regularity of form, may serve both to encourage perseverance and as a good type for seed. In the following year, from the seeds of pink flowers, he obtained a beautiful, brilliant, clear, sulphur-colored specimen, perfect in every respect. It is from the seeds of those two plants that he has obtained all the other beautiful and remarkable varieties which he now possesses, after a lapse of ten years from his first attempts. As a general rule, M. Pelissier prefers flowers with six exterior petals, with entire edges, well open, well set out, of a middling size, of a pure, clear, brilliant color, and forming a perfect Anemone. As the flowers expand, M. Pelissier removes whatever is not conformable to the type he has chosen, or is not of a marked color, and like a perfect Anemone. It is by doing this every year that he has obtained twenty remarkable varieties, the names and characteristics of which have been kindly furnished by him, and are given below.

1. *Souvenir de Malmaison*, delicate rose, flower very full; perfection.
2. *Géant de Batailles*, red, flower very full.
3. *Vestale*, fine pure white, flower very full.
4. *Anais*, rose, flower very full; perfection.
5. *Chromatella*, dark yellow, flower very full.
6. *Jeune Euphémie*, clear red, flower beautiful,

full; perfection. 7. *Reine Victoria*, cinnamon-colored, shaded, flower very full. 8. *Grand Peking*, nankeen-colored, flower very full. 9. *Amaranth*, dark red, flower very full. 10. *Isabelle*, dark red, flower very full. 11. *Grand Colbert*, dark rose, streaked, flower full, very perfect. 12. *Marie Gabrielle*, fleshy white, flower full; beautiful. 13. *Matilde*, clear cherry, flower very full. 14. *Solfaterre*, very clear yellow, flower very full. 15. *Boule de Neige*, beautiful white, flower well rounded, full. 16. *Ophirie*, yellow, with a tint of pink, flower very full. 17. *Arlequin*, clear, approaching to dark violet, spotted with white. 18. *Desprez*, white, middle yellow. 19. *Proserpine*, very dark red, flower very full. 20. *Pluton*, black, flower very full."

The writer has been very successful in producing many beautiful varieties from seed from Germany, for which he obtained the Horticultural Society's premiums two successive years.

The seed should be sown in June or July. The plants should be pricked out in groups where they are to stand in August. They will require but little protection. As the flower-stems begin to advance, they should be well staked. As soon as the flowers begin to expand, all inferior sorts should be pulled up. From good seed many fine double varieties may be expected in one hundred plants.

When a good variety has been obtained, it may be perpetuated by dividing the root every year, or by cuttings of the young shoots.

The Hollyhock flowers the second and third years after sowing, and then dies, unless its roots have been divided. There is no flower which makes a greater show, when planted in masses, than the different varieties in all their various colors, tints, and shades. It is in flower most of the months of July and August.

ANEMONE.

Pasque Flower. — *Musk-scented Geranium.*

Anemone pulsatilla is an old-fashioned English perennial border flower, easily cultivated, and described by Gerarde, the herbalist, in his book written two hundred and fifty years ago, thus : — “ It hath many small leaves, finely cut or jagged, like those of carrots, among which rise up naked stalkes roughf, hairie, whereupon doe grow beautiful floures, bell-fashion, of a bright delaied purple color; in the bottom whereof groweth a tuft of yellow thrumbs, and in the middle of the thrumbs it thrusteth forth a small purple pointell. When the whole flower is passed, there succeedeth an head or knob, compact of many gray hairy lockes, and in the solid part of the knob lieth the seed, flat and hairy, — every seed having his own small haire hanging at it. The root is thicke and knobby, of a finger long, running right down, and therefore not unlike those of the Anemone, which it doth in all its other parts very notably resemble, and whereof no doubt this is a kind.”

A. nemerosa, or Wood Anemone, is one of our earliest flowers in spring, appearing in April, and continuing through May; found in company with violets and other vernal flowers, in wood and pastures, and beside walls and fences. It grows in spreading clusters, sending up its stem, bearing three leaves, which is crowned with one single white flower, the external part of which is of a reddish purple.

There is another indigenous species of the Anemone, a perennial also, called the rue-leaved or *A. thalictroides*, which is distinguished from the last by its number of flowers and more finely-divided leaves. Flowers white, in April and May.

These two species require some care in transplanting, as the roots are delicate and straggling. It requires shade and moisture.

AMSONIA.

Amsonia latifolia. — Broad-leaved Amsonia. — *Amsonia salicifolia*. — Willow-leaved Amsonia. — Natives of our southern states. These two species resemble each other somewhat, except one has long, broad, peach-shaped leaves, and the other willow-shaped; both are hardy perennials, with pretty blue flowers, two feet high, in June; easily cultivated in almost any soil.



ANTIRRHINUM.

Snap-Dragon.

This is a curious, as well as an ornamental, genus of plants, mostly perennials or biennials. The word *Antirrhinum* is derived from words in Greek which express "similar to a nose." The flower bears a perfect resemblance to the snout or nose of some animal; by applying the thumb and finger to the side of the corolla, it opens and shuts, as with a spring. It is described by Gerarde in his Herbal, thus: "This purple Snap-Dragon hath great and brittle stalks, which divideth itself into many fragile branches, whereupon do grow long leaves, sharp-pointed, very greene, like unto those of wild flax, but much greater, set by couples and set one opposite against another. The flowers grow at the top of the stalkes, of a purple color, fashioned like a frog's mouth, or rather a dragon's mouth, from whence the women have taken the name Snap-Dragon. The seed is black, contained in round husks, fashioned like a calf's snout, — whereupon some have called it calf's snout, — or in mine opinion it is more like unto the bones of a sheep's head that hath been long in the water, or the flesh consumed clean away."

Since Gerarde's day, the Snap-Dragon has sported into many varieties, not only purple but rosy, crimson, yellow, red and yellow, red and white, white striped, mottled, tipped, &c. It

is not a perfect perennial, as it is apt to die out every few years. The varieties may be propagated from cuttings or divisions of the root. It is raised abundantly from seed, flowering the first year in autumn; but not so strong as the second year. Many beautiful varieties are in cultivation. It flourishes best in a dry, loamy soil, and is in flower in June or July. There is a beautiful *Antirrhinum* which grows profusely by the road-side; the flowers yellow and orange: *A. linaria*, or Yellow Toad Flax. This would be desirable for the garden, were it not for its weedy propensity of running about the ground where it is not wanted.

AQUILEGIA.

Columbine.

Aquilegia, from *aquila*, an eagle. The inverted spurs of the flower have been likened to the talons of a bird of prey.

A. vulgaris, and its varieties, are too well known to require description. Some of them are very beautiful, and all interesting when planted in beds or masses; they are of every shade of blue, purple, white, reddish-brown, striped or variegated, with single, semi-double, and full-double flowers. In bloom in May and June; two feet high. Propagated from seed, or the choice varieties by divisions of the roots.

A. Canadense is one of the finest species; indigenous; common in rocky situations; flowering early in May. It has pendulous scarlet flowers. I have seen a variety with pure white flowers, and undertook to transfer it to my garden, but the root was wedged into a seam in a rock, and was broken off and ruined in the attempt. Mr. Carter, formerly of the Botanic Garden, had a straw-colored variety. This elegant vernal flower is much improved when cultivated; the stool increasing in magnitude, throwing up many more stems, and the flowers larger. If a little more attention could be given to its cultiva-

tion from seed from flowers cross-impregnated from the garden species, no doubt some fine varieties would be obtained.

A. glandulosa is a beautiful and newly-introduced species, of great beauty. The plant is more dwarfish in its habits than the common Columbine; the leaves more finely divided. It is about one foot high, producing in June numerous large, rich, sky-blue flowers; the internal part and margin of the corolla pure white. It is one of the most desirable of the family; raised from seeds or divisions of the root. Columbine should be divided soon after flowering, and not in the spring. All are at home in any common garden soil.



ARMERIA.

Thrift.

This genus contains a number of ornamental plants, generally well adapted for rock-work.

Armeria vulgaris is the Common Thrift of the garden, and, next to Box, desirable for edgings. It is rapidly multiplied by divisions of the root. Its pink flowers are produced in June or July, on stems six inches high, in little heads or clusters.



ASTER.

Star-Flower.

This large genus of plants embraces more than ninety species, all inhabitants of the United States; some of them very handsome; giving life and beauty to our fields and woods, during the autumnal months, by the profusion of the various shades of their blue, purple, or white flowers. Most of the family are perennials, easily transplanted when in flower, provided they are cut down to the ground, and may be planted among the shrubbery or borders, and will add grace and beauty

to the garden. One of the finest, *A. Novæ Anglæ*, or New England, is a strong-growing plant, three or four feet high, with large purple flowers.

A. multiflora is a very fine plant, producing its snow-white flowers in beautiful wreaths, having small linear leaves, of a deep glossy green; two feet high. If we had never seen this so common, and if it had been introduced from some foreign land, it would no doubt produce quite a sensation among florists.

A. puniceus has brilliant light-blue flowers; grows three or four feet high.

A. cyanus has purplish-blue flowers; three feet high.

A. diffusus is a beautiful species, producing a profusion of small white flowers with brownish disk; two to three feet high.

A. puniceus, *A. cordifolia*, *A. corymbosum*, *A. lævis*, *A. diversifolia*, and many others, would be valuable acquisitions to the large flower-garden, and all improved by transplanting. They would open a wide field for improvement by hybridizing.

ASCLEPIAS.

Swallow-Wort.

This is a numerous genus of plants, of which there are found in the United States about twenty species. Many of them are cultivated in England as ornamental plants, and, in an extensive collection, they should be brought into the flower-garden here; and a few of them in any collection, however small.

The following are some of the species which may be found in New England. Nos. 1, 4, 5, 6, 8, and 13, are some of the most ornamental, and may be transplanted to gardens soon after flowering. They are all perennials.

"1. *Venosa*—has leaves elegantly variegated with white and crimson veins, and the stems terminate in an umbel of pale, flesh-colored flowers.

"2. *Pulchra*. — Water-Silk-Weed, — has nearly erect stems, four or five feet high; umbels very small; flowers crimson-purple. Grows on low, wet land, by the side of ponds.

"3. *Variegata*. — Variegated. — Leaves rough, umbels compact and come out from the side of the stalk; flowers of an herbaceous odor.

"4. *Nivea*. — White, or Almond-leaved. — Stalks two feet high, and of a dark green. Leaves deep green above, and pale beneath, smooth and rather stiff. Flowers green, with white nectaries.

"5. *Incarinata*, — Flesh-colored, — has several upright stalks about two feet high, at the top of which are produced close umbels of purple flowers; blooms in August.

"6. *Decumbens*. — The stalks are declining, hairy, a foot and a half high; leaves narrow; umbels compact, at the extremity of the branches; flowers a bright orange color.

"7. *Verticillata*. — Stalks slender, upright; umbels at the extremity of the stems; leaves in whorls of four, five, and six together; flowers small and of a greenish-white color. Found in Roxbury and Dedham; blooms in July.

"8. *Tuberosa*. — Butterfly-weed. — Root large, fleshy, branching and somewhat fusiform, but it is only by comparison with other species that it can be called tuberous; stems numerous, growing in bunches from the root, hairy and dusky red; flowers numerous, erect, and of a beautiful bright orange color; grows in Woburn and Newton; blooms in August.

"9. *Obtusifolia*. — Blunt-leaved. — Stems erect, supporting a terminal umbel, at a distance from the leaves, which are opposite, ovate, heart-shaped at the base; flowers large, of a greenish-white, tinged with red; it is found in Cambridge and Mount Auburn; blooms in July.

"10. *Phytoloccoides*. — Poke-leaved. — A tall, large-flowering species, of a delicate appearance; stem erect, four or five feet high; leaves large; umbels nodding, flowers large, petals green, nectaries white or flesh-colored; grows in low grounds; blooms in June.

"11. *Purpurescens*. — Dark-flowered. — Stem erect; flowers of a dark crimson purple; grows in Cambridge and Newton, but is rare.

"12. *Quadrifolia*. — Four-leaved. — A delicate species, growing in dry woods; stem about a foot high; flowers flesh-colored; is found in Roxbury and Brookline, and blooms in June.

"13. *Amonea*. — Oval-leaved. — Stalks from a foot and a half to three feet high; at each point are two large leaves, which are thickish, stiff, smooth, with purple nerves; umbels rise from the stalk and some of the upper axils; flowers of a bright red color.

"14. *Syriaca*. — Milk-weed, or Silk-weed. — This species abounds all over our country, and, for the many useful purposes to which it may be applied, is deserving of attention.

The flowers of the *Asclepias* are produced in umbels; all are very attractive to the butterfly family and other beautiful insects, and for this reason a few species should be introduced into the garden.

BAPTISIA.

Baptisia, from *bapto*, to dye: in allusion to the economical properties of some species. A blue dye is extracted from the leaves.

Baptisia australis was formerly *Sophora australis*, and is commonly called by that name. The genus *Sophora* has been much altered, and now consists chiefly of fine trees. It contains, however, two species of ornamental herbaceous plants. *S. flavescens*, with yellow flowers, a native of Siberia, and *S. alepechroides*, with blue flowers, from the Levant; the former two, the last four, feet high.

Baptisia australis is considered a handsome border flower of the easiest culture, exceedingly hardy and indigenous to some parts of North America. It produces its blue flowers in terminal spiked racemes in June. Leaves ternate stalked;

leaflet cuneate lanceolate; stipules longer than the stalk, lanceolate. A variety has white flowers; another with brown and yellow.

BELLIS.

Common Daisy.

Bellis perennis. — A well-known perennial, in bloom from March to August; three inches high. There are several varieties, as the red, white, blush, red-quilled, white-quilled, hen and chicken, &c.

This beautiful little flower will not stand our winters without protection. They are best kept in a frame, where they can be preserved from the extreme cold weather, and exposed to the sun and air.

Daisies may be propagated abundantly, by dividing the roots; but these should be planted in shady borders, where they will not be exposed to the too powerful influence of our summer sun, which would absolutely destroy them, if left to its mercy.

CAMPANULA.

Bell-Flower.

This is a large family of plants, mostly handsome, hardy, perennial; some of them very beautiful, and about all suitable for ornamenting the borders. We have one indigenous species, which is very pretty, and worthy a place in the border; found abundantly on the banks of Merrimack river, at and above Lowell. It is very much like *C. rotundifolia*, of England. Having cultivated them side by side, we can see but a shade's difference. Mr. Eaton calls our species also *rotundifolia*. Each species has nearly round, or heart kidney crenate radical leaves, from which the specific name is given, and linear entire

cauline ones, with drooping, solitary, fine blue flowers; those of the English species being rather the largest, with the cauline leaves a little broader. The common name, with us, is Flax bell-flower, or Hair bell. It is in flower in July and August; one foot high.

Campanula medium. — Canterbury Bells. — This species, with its varieties, may be considered one of our oldest ornamental plants, having for a long time been cultivated in our gardens; it is, nevertheless, a showy plant, and will doubtless always be retained as a prominent ornament of the border. The varieties are rose, blue, and white, double and single. The double varieties, however, are much inferior to the single ones, and will be cultivated only for their singularity. Being biennials, it will be necessary to sow the seeds every year. The young plants must be transplanted to the place in which they are to flower, in August or September, for if deferred until spring the bloom will be greatly weakened; the same holds good with all biennials, and most seedling perennials.

Campanula persicifolia. — Peach-leaved Campanula. — This is one of the finest species, containing a number of beautiful varieties, with large, showy flowers, more bowl-shaped than the last. The varieties are single and double blue, single and double white, maxima or large peach-leaved, and grandis or large flowering. All of them are perfectly hardy, with handsome foliage, which makes them valuable as border flowers. Stems angular; leaves stiff; obsoletely crenate serrate; radical ones, oblong ovate; cauline ones, lanceolate linear; three feet high; in flower in June and July.

Campanula pyramidalis. — Pyramidal Bell-flower. — This is a grand ornament, when cultivated in perfection, forming a pyramid from four to six feet high, producing innumerable flowers for two or three months, if shaded from the sun. It was formerly a great favorite in England, but its popularity has long since passed away to give place to other more fashionable flowers, which have in their turn also been succeeded by other rivals more fair. But the old-fashioned Hollanders

are not quite so fickle ; flowers with them seem to be esteemed, notwithstanding their antiquity. The Pyramidal Bell-flower is said to be in demand there still, as an ornament to halls, stair-cases, and for being placed before fire-places in the summer seasons.

“ *By Seeds.* — The plants so raised, are always stronger, and the stalks rise higher, and produce a great number of flowers. They are to be sown in pots of light earth, soon after being gathered, protected by a frame during winter, and will come up in the spring. When the leaves decay, in October, they are to be transplanted to beds of light, sandy earth, without any mixture of dung, which is a great enemy to this plant. Here they are to remain two years, being protected by rotten tan ; they are then to be removed to their final destination, in September or October ; and the year following, being the third year from sowing, they will flower.

“ The *C. carpatica*, *grandiflora*, and several other showy species, may be similarly treated.”

Seedling plants, in our climate, will flower the second year, generally ; some not until the third. A slight protection is necessary during winter.

Campanula grandiflora is now separated from *Campanula*, and is united with the small genus *Wahlenbergia*, and is called *Wahlenbergia grandiflora*.

Campanula trachelium. — Throatwort. — There are four varieties of this species, viz., single and double blue, single and double white ; flowers from July to August ; three or four feet high.

Campanula rapunculus. — Rampion. — A native of the woods of Britain, and cultivated not only for ornament, but also, “ in France and Italy, and sometimes in Britain, for the roots, which are boiled tender and eaten hot, with sauce, or cold with vinegar and pepper. It is sown in the spring, on deep, light soil, in drills, and will be ready for use by the autumn of the same year. *C. persicifolia* and *rapunculoides* may also be



cultivated for the same purpose." A biennial, with purple flowers in July and August; three feet high.

Campanula glomerata, — Cluster-flowered, — "is a handsome rock or pot plant; it requires a dry, lean soil, otherwise, as in most plants, the flowers lose the intensity of their color in that which is very rich." Flowers purple, in clustered heads, in May and June; two feet high; a native of Siberia. Leaves scabrous, oblong lanceolate sessile. *Campanula urticifolia*, *speciosa*, *versicolor*, *azurea*, *bononiensis*, *lactiflora*, *aggregata*, with numerous other species, are worthy of a place in every garden, as they are easily cultivated, succeed admirably in our climate, and will endure the severest of winters. But a small portion of this large genus require protection.

CARDAMINE.

Cardamine pratensis pleno. — Double Cardamine. — A hardy perennial, from Britain, one foot high, with double white flowers, in May or June; propagated by dividing the root.

CASSIA.

Cassia Marylandica. — Maryland Cassia. — A hardy, indigenous perennial, four feet high, with yellow flowers, from August to September. Many of this genus are beautiful plants, but mostly tender; some species are sensitive, and close their leaves in wet weather, or at the approach of night.

CATANANCHE.

Catananche cerulea. — Blue Catananche. — A handsome perennial, from the south of Europe, one and a half foot high, with

brilliant blue flowers in July and August. Propagated from seed and parting the roots.

CHRYSANTHEMUM.

Chinese Chrysanthemum.

This is one of the handsomest autumnal flowers, and easily cultivated in almost any soil. It stands the winter without covering, but is best cultivated in pots, where it can receive protection when in bloom, in severe weather in autumn. In warm seasons, it flowers well in October and November, in a sheltered place, in the open ground. The plants may be cultivated in the garden till they are in bud, when they may be safely transferred to pots; but it would be better to commence their cultivation from the slip or cutting, in the spring, and sink the pots into the ground, in a shady place, until the time of taking up. The varieties are endless, early and late, tassel-flowered, quilled, flat-petalled, &c., with every shade of light purple, yellow, white, lilac, blush brown, red brown, &c.

For common culture, divide the roots in the spring, and plant them out, where they are to stand, in a warm exposure, in good rich loam. As they are coming into bud, give them occasional waterings with liquid manure.

To produce handsome, dwarf, bushy plants, the following course may be adopted, as practised by Youell & Co., England, which course, they say, "if carried out, will ensure dwarf plants from one and a half to two feet high, covered with rich dark-green foliage, and carrying blooms from five to seven inches in diameter. In the last week in May we select the tops of the strongest shoots for cuttings, putting four or five round the edge of a three-inch pot, and placing them in a gentle warmth. When rooted, they are potted singly in the same sized pot, and kept in a close frame, for a few days, until they have become established. The tops may then be pinched out, leaving five or six joints to remain for lateral shoots.

After a few days' hardening off, they are then removed to an open situation, allowing the plants a sufficient distance from each other to prevent their drawing, care being observed that they do not suffer from want of water. About the third week in July, we shift, for blooming, into seven-inch pots, using a small handful of coarsely-broken bones at the bottom. The soil we use consists of equal parts of well decayed (one year old) pig manure, turfy loam, and leaf-mould, adding half a barrowful of peat, and half ditto of road-drift to every four barrows of the above. When potted, they are placed in rows two feet apart, and they require but little attention, except watering, for two months. At the expiration of this period, we commence watering twice a week with liquid manure, made with one bushel of fresh pig manure (free from straw) to about eighty gallons of water. This will be ready for use in two or three days. As soon as the plants show flower-buds, we tie each shoot to a stick, and train them fan-shaped. Disbudding ought now to be attended to, reserving only one, or, at most, two, at the top of each shoot; but where two are left, it is better to take out the second bud, and leave the third, to prevent confusion. As soon as the buds show color, the plants are then removed to the green-house or conservatory, giving plenty of air, and substituting water for liquid manure. We ought to have mentioned that, where a profusion of bloom is required, two or three plants may be inserted in the pots where only one is usually grown. This will afford an opportunity of cutting away the weakest shoots, and reserving the strongest only."



CHELONE.

Chelone barbata.—Scarlet Chelome.—A halfhardy perennial, from Mexico, three feet high, from July to September, with orange scarlet flowers. It will be necessary to cover it well with fine boughs or straw, in the winter, or they may be

destroyed by the cold. All the species are handsome border flowers, of easy culture in a loam and peat soil, and can be propagated by parting the roots, or by seed.

CLEMATIS.

Virgin's Bower.

Clematis, from Greek, a tendril; in allusion to the climbing habits of most of the species. The species are mostly climbing shrubs, or herbaceous perennials, of rapid growth, free bloomers, very ornamental, and some are highly odoriferous.

C. Virginicum is a native plant, well known as a great climber, growing profusely upon the banks of our rivers and wet places; taking possession and covering all the shrubs in its neighborhood, to which it attaches itself by its petioles, which are given off, at intervals, in pairs, twining round objects for support, and serving the purpose of tendrils. The flowers are white, borne upon cymes, and make a handsome appearance the beginning of August. The most remarkable appearance of this plant is when in fruit; the long feathery tails of seeds separating like tufts of wool. It grows twenty feet or more in a season, most of which perishes, leaving but a small portion shrubby. It makes an appropriate covering for an arbor or wall; for, whether in flower or seed, it is ornamental.

C. alpina, or *erecta*, is strictly an herbaceous plant, growing from three to four feet high, producing large families of white flowers in August. It requires support, as it has the propensity to attach itself to everything in its neighborhood, like the last, by its petioles.

Clematis integrifolia. — Entire-leaved. — A handsome, upright plant, about two feet high, producing nodding, bell-shaped, blue flowers, most of the season.

C. vitacella is a much admired species, with blue flowers, which are produced from June to September, on long peduncles,

from the axils of the leaves; rather bell-shaped, and nodding. It is a climber, growing from eight to ten feet in a season; dying down to the ground, in this climate, but otherwise hardy. There is a variety with double flowers, others with brownish red flowers, and several improved varieties.

C. flammula is a luxuriant climber, producing clusters of small white flowers, in August and September.

C. florida has large white flowers; like the last, a luxuriant climber. There is a variety with double flowers.

C. Sieboldii. — Siebold's Virgin's Bower. — This magnificent plant is said to be a variety of *C. florida*, and, till lately, treated as a green-house plant, but which has proved as hardy as the other sorts. The flowers are three or four inches in diameter, the outer sepals, or petals, a creamy white, filled up with others, disposed of in many series, the groundwork of which is white, suffused with a rich purple. No plant possesses a stronger claim to a place in the flower-garden, from its graceful habit, and from the size and beauty of its blossoms.

The plant thrives best in a mixture of loam and peat, and is increased by layers. It was introduced by Dr. Siebold, from Japan, a few years since. I have kept it two winters, by covering it lightly with coarse manure.

C. azurea grandiflora, or Great-flowering Blue Virgin's Bower, has still larger flowers than the variety *Sieboldii*. It has the reputation of being more tender than this, requiring greater heat to bring it to perfection. With me, it stood near the other species two winters, with the same protection. The flowers are produced only on the old wood; it is necessary, therefore, to lay down, and cover the growth of the season, to insure bloom the next year. The flowers are four or five inches in diameter, of a rich blue, in July; a climber, like the last, but not of so robust growth.

Besides the species and varieties enumerated, there are many others, esteemed ornamental.

CONVALLARIA.

Solomon's Seal.

"No flower amid the garden fairer grows
Than the sweet Lily of the lowly vale,
The queen of flowers."

Convallaria majalis. — Lily of the Valley. — An elegant and delicate, sweet-scented plant, which for ages has been a favorite flower, and highly prized. It succeeds well in the shade in any soil, and soon spreads itself, by its slender, creeping roots, beyond the desire of the cultivator. It flowers in May and June. Gerarde describes it, in his quaint way, thus: "The Lilly of the Vally hath many leaves like the smallest leaves of Water Plantaine, among which riseth vp a naked stalke, halfe a foot high, garnished with many white floures, like bells, with blunt and turned edges, of a strong savour, yet pleasant enough, which being past, there come small, red berries, much like the berries of asparagus, wherein the seed is contained."

Convallaria racemose, or Solomon's Seal, is a hardy, indigenous perennial, with yellow and white flowers, on terminal raceme panicles, in May; two feet high.

Convallaria multiflora, or Giant Solomon's Seal, is another native perennial, two or three feet high, with white flowers, in the axil of the leaves, in June. Both sorts are appropriate for the shrubbery or borders. Gerarde, our old author, speaking of the virtues of the plant, says, "that the roots are excellent good for to seale or close up greene wounds, being stamped and laid thereon, whereupon it was called *Sigillum Salomoni's*, for the singular virtue it hath in sealing or healing vp wounds, broken bones, and such like." He further says, "The root of Solomon's Seale, stamped while it is fresh and greene, and applied, taketh away, in one night, or two, at the most, any bruise, blacke or bleu spots, gotten by fals, or women's wilfulnesse, in stumbling upon their hasty husbands' fists, or such like." A very useful plant, one would think, for some families to cultivate.

CONVOLVULUS.

Morning Glory.

Convolvulus, from *convolvere*, to entwine. This is an extensive genus, of much beauty. The sweet potato belongs to this family. Nearly all are climbers.

Convolvulus panduratus. — Virginian Convolvulus. — This is a beautiful perennial, from Virginia, with large, white flowers and purple centre; grows twelve feet high, flowering from June to September. A variety has double flowers; roots tuberous.

Convolvulus arvensis. — Small White Convolvulus. — Handsome, indigenous, perennial, flowering in June or July; stem climbing.

CORONILLA.

Coronilla varia is the only hardy herbaceous perennial with which we are acquainted in the genus. It is worthy a place in the flower-garden, provided it is kept within due bounds. This may be done by digging round the plant, every spring, with a spade, and removing from the ground all its young, creeping roots, which otherwise would be too neighborly with the other plants in its vicinity. Treated in this way, if the soil is not very rich, it will give an immense number of its pretty coronets of purple and white, or pink flowers, in long succession, and they are generally admired. Leaves pinnate; leaflets numerous, lanceolate, smooth. Stem lax, four feet high, requiring support from wire or light rods.

COREOPSIS.

Among the numerous family of Coreopsis, are included a number of showy perennials, with yellow flowers, all perfectly hardy, and easily propagated by division of the roots.

Coreopsis lanceolata, — Lance-leaved, — is a fine species, with lanceolate leaves, producing a profusion of large, rich, yellow flowers, upon long peduncles, (flower-stems,) which begin to open in June, and give a continued succession until autumn. Height about two feet. This is almost the only perennial which produces yellow compound flowers, so early in summer. A small root, planted in April, will make a large plant by autumn. All the species are propagated by dividing the roots. They flourish in moist soils, but I have found them most luxuriant in a deep, black loam, inclining to moisture. In flower most of the summer.

Coreopsis verticillata. — Leaves verticillate (given off in a circle round the stem); opposite, sessile (without footstalks); ternate (in threes); or quinite (in fives); leaflets linear lanceolate, entire; rays of the flower acute, pale yellow; disk, or centre, dark brown. The flowers have a peculiar, star-shaped appearance. It is said the florets are used to dye cloth red. It is a handsome shrubby or border plant, continuing from July to October in bloom.

Coreopsis tenuifolia. — Slender-leaved. — The foliage of this species very much resembles the last, with this difference, it is much more delicate and finer. The flowers are of the same shape, a deep, shining yellow, having its disk also yellow; not more than a foot high; in bloom in July and August. A handsome plant, suitable for the front of the border.

Coreopsis tripteris. — Three-leaved. — A tall, handsome plant, suitable for the shrubbery, six feet high. Leaves on the stems in threes; lanceolate, entire; radical ones pinnate; flowers yellow; from August to October.

Coreopsis grandiflora. — Great-flowered. — The flowers are not so large, however, as *C. lanceolata*, or so handsome. Its habits are different from the other species, having creeping roots, which throw up, in every direction, stems not more than one foot high, with compound, much divided leaves; leaflets linear. As an exception to the other species, this is somewhat tender, and requires protection.

There were as many as thirty species formerly included in this genus, all of which are more or less ornamental, and suitable for the shrubbery or border. Latterly, some of the species have been distributed among the genus *Actinomeris*, *Simsia*, and *Calliopsis*. In the last, *C. tinctoria* is now arranged.

CORYDALIS.

Fumitory.

Corydalis fungosa. — Wood fringe, or Climbing Fumitory. — An elegant, indigenous, biennial, climbing vine, growing, frequently, in rich ground, from fifteen to thirty feet, in one season; with pink and white flowers, which are produced in abundance during the three summer months; handsome foliage. Propagated from seed, which should be sown in April. The first year, the plant makes but little progress; but the second year, it is of more vigorous growth. The young plants will do best to be transplanted where to remain in July and August; but will bear moving in the spring, if done with much care.

Corydalis formosa. — Red-flowered Corydalis. — A handsome indigenous perennial, with flesh-colored or reddish flowers, from May to July; from six to ten inches high.

Corydalis cucullaria. — Naked-stalked Corydalis, or Dutchman's Breeches. — An indigenous perennial, with elegant, finely-divided leaves, of a pale and delicate green, from the bosom of which arises a scape bearing a one-sided, simple raceme of white, singular-looking, pendulous flowers.

It is vulgarly called Dutchman's Breeches, on account of the resemblance of the corolla to that article of dress. Flowers in May.

Corydalis glauca. — Glaucus-leaved Fumitory. — An indigenous biennial, from one to three feet high, with glaucous leaves; flowers yellow, red, and green, in June; propagated by seed.

There are six or seven species of the *Corydalis*, all indigenous, some of them to be found in New England. A very

pretty genus, most of them early flowering, and elegant plants, and worthy of cultivation.

CYPREPEDIUM.

Lady's Slipper.

Cypripedium, from Greek words, Venus, and a slipper, in allusion to the elegant slipper-like form of the labellum. Handsome indigenous plants, that thrive only in a shady border and peat soil.

The most common species is *C. humile*, or Two-leaved Ladies' Slipper, or Whip-poor-will Shoe. It is found in rich and somewhat shady woods, with two broad-plaited leaves, from which rises a leafless scape, producing a solitary white and purple flower, six or eight inches high. There are six species to be found in the United States, with white, yellow, and purple and white, or green flowers, all of them singular in shape.

CYNOGLOSSUM.

Navelwort.

It is a beautiful little perennial plant, with brilliant blue flowers, in April and May; six inches high, and is common in every cottager's garden in England; and would be here, if more extensively known.

DELPHINIUM.

Larkspur.

There are many species and varieties of the perennial Larkspur, which are indispensable in a collection of plants; all hardy, flourish in almost any soil, and easily propagated by dividing the roots. The double varieties are in flower most of the sea-

son. The brilliancy of the blue color of some of the flowers cannot be surpassed.

Delphinium sinensis pleno. — Double Chinese. — This is one of the most magnificent of herbaceous plants. It can be propagated only by dividing the roots, as it does not produce seed; it is perfectly hardy, enduring the coldest weather without protection; it is best to give a little, however, as it will flower stronger for it. The flowers are of a most beautiful lively blue, in long open spikes, upon graceful, slender, purplish stems, three feet high. From June to October it displays its beauty, and is indispensable in the formation of a perfect bouquet. Foliage palmate, many-parted.

Delphinium elatum. — (Upright.) — Bee Larkspur. — So called on account of the bifid termination of the nectary in the centre of the corolla, in connection with the anthers having a fancied resemblance to a bee.

This species, from its height, which is from five to seven feet, is well adapted to the shrubbery; its long, clustered spike of fine blue flowers making a fine appearance in that department. It is also suitable for the border, but should be planted at the greatest distance from the walk. Leaves downy, five-lobed; lobes cuneate (wedge shape) at the base, trifid cut. Propagated by seed or divisions of the roots.

The plant is covered with soft green down. It sports into many varieties, from pale-blue to dark, and blue with a white centre, which is very beautiful.

Delphinium Barlowii, — Barlow's Larkspur, — is a species or variety apparently intermediate between the Great-flowering and Bee Larkspur. It sends up a stem from three to five feet high, much branched at the top, covered with innumerable dark blue flowers in June and July, partaking somewhat of the character of the Bee Larkspur. Propagated by divisions of the root.

Delphinium grandiflorum. — Great-flowered. — One of the most showy of the genus, sporting into many varieties. Its height is from two to three feet, and continues to give a succes-

sion of flowers from June to October ; which are large, of a fine blue, purple or white, double and single, and often spotted or shaded on each petal with copper color on the dark varieties, or with green on the white. Leaves palmate, (hand-shaped,) many parted.

It is propagated by dividing the roots in the spring, about the time it begins to vegetate, or it may be divided with success in August. By sowing the seed, new varieties may be expected, which, if done early, will flower in autumn. Nothing is more pleasant than to originate a new variety. It must not be supposed, however, that there will be much chance short of a hundred plants. It has flourished with me in a variety of soils. It will, in fact, grow anywhere without difficulty, only requiring to be divided every few years, when the roots become large. It is said to be a native of Siberia, and, of course, must be hardy.

Among a multitude of beautiful seedlings of my own raising, I have selected two as worthy of cultivation. The one named *Delphinium Breckii*, No. 1, has large double flowers of the most exquisite blue, which display themselves from June to November. It is generally acknowledged to be finer than the Double Chinese. The plant is more erect in its growth, from two to two and a half feet high ; the color a clear, light, vivid, ultramarine blue.

Breck's No. 2, is darker colored than the last, and not quite so double, but makes a fine show.



DIANTHUS.

Pink.

Dianthus, signifying the flower of God, or divine flower ; so named on account of its preëminent beauty. Most of the species of this genus are highly valued, not only for the beauty of their flowers, but also as being evergreens ; their foliage, during winter, being as abundant and as vivid as in summer.

The fragrance of some of the species is peculiarly grateful, and no plant in this respect surpasses the Clove and some other varieties of the Pink.

Dianthus caryophyllus. — Carnation Pink. — There is no flower more desirable in the flower-garden than the Carnation. A well-grown, superior variety, cannot be surpassed, in elegance, beauty, or odor, by any other flower; yet we scarcely ever see it in perfection. Its cultivation is attended with many difficulties, in our climate, which may account for its rarity. Our winters are too severe, and springs too changeable, to keep them in perfection in the open ground; and then our summers are too dry and hot for the full development of its beauties. Seedlings stand the winter and spring without difficulty, with a light covering of leaves and evergreen boughs, and flower very well; but then not one plant in a hundred will be considered worth saving by the florist, although they will all be interesting as single, semi-double, or irregular flowers, and richly repay all the labor. Valuable varieties are generally propagated from layers, which often keep very well in the open ground by letting them remain with the parent plant, and covering them with leaves and pine boughs; but the most certain way is, when the layers have taken root, to pot them, and at the approach of winter put them in a frame where they may be kept with perfect safety, provided air is given them in mild weather, and they are not exposed to the sun when in a frozen state. The mice are very destructive to all the pink family; therefore the frame must be tight.

Carnations are arranged by florists into three classes, viz., *Flakes*, *Bizarres*, and *Picotees*. *Flakes* have two colors only; their stripes large, going quite through the petals. *Bizarres* are variegated, in irregular spots and stripes, with not less than three colors. *Picotees* have a white ground, spotted or pounced with scarlet, red, purple, or other colors. The finer sorts are regularly edged with these colors, on a clear white or yellow ground. The petals of a perfect flower should be rose-leaved, or with entire edges; the flower should be filled up in a reg-

ular manner with leaves of this description. It flowers in July. On a strong plant the stem will be three feet high.

The propagation of the Carnation by layers is a very simple operation. When the plant is in perfection of bloom, lay around it one and a half or two inches of compost, first gently stirring the surface so that it may combine; remove the lower leaves of the shoots selected; pass the penknife, slanting upwards, half through the joint; fasten the shoot, where so cut, about two inches under the surface, with a small hooked peg, bending it carefully so as not to break at the incision; then fix it firmly by gently pressing the earth around with the fingers, and finish by cutting off about half an inch of the upper extremities of the leaves with scissors. The sap soon begins to granulate at the wound, and throw out roots. In about a month or six weeks, if it has been kept moderately moist, they may be severed from the parent plant and established for themselves; or they may remain where they are, if the stem to which they are attached be carefully cut off.

The Carnation requires a rich, generous, deep soil. A compost of three parts of good, strong garden loam, three parts hot-bed manure, two years old, three parts of coarse river sand, two parts dry manure from a hen-house, sifted, and two parts of soot from a wood fire, has been recommended for the Carnation.

D. hortensis. — Garden Pink. — This species is in perfection about the last of June. The foliage is more grass-like, and the plant much hardier, than the Carnation. The double varieties are very desirable, not only for their beauty, but also for their fragrance. They may be propagated by dividing the roots, by layers, and by pipings. The surest mode of propagation is by layers, but piping is generally resorted to for Pinks. These are shoots cut from the plant at the second or third joint, according as they are more or less woody or juicy, and inserted, close to each other, in a bed of proper compost well pulverized; water moderately, so that the earth may adhere closely round the shoots; when the moisture has somewhat

evaporated from the leaves, cover them up with a hand glass, which must be forced a little depth into the ground so as to keep out the air. This need hardly be removed until the plants have taken root; they must be shaded, however, the first fourteen days, with mats over the glasses, when the sun is very hot. If properly managed, not one in twenty will miss, and between one and two hundred may be planted under one glass; in a month or six weeks they will be sufficiently rooted to move. Carnations are sometimes raised from pipings, but they are not so sure as Pinks to take root. This variety is often called the Paisley Pink, on account of its having been raised in the highest perfection among the weavers near Paisley, in England. A good Pink should have a strong, elastic, and erect stem, not less than one foot high. The petals should be large and broad, with very fine-fringed edges, the nearer rose-leaved the better. The ground-work of the flower should be pure white, or rose-colored, with a dark, rich crimson, or purple eye, resembling velvet; if nearly black, so much the richer. A delicate margin, or lacing, round the entire petal, if the color of the eye, increases its beauty. The flower should be from two to two and a half inches in diameter.

Dianthus Chinensis. — China Pink. — This species is a biennial of great beauty, but without fragrance; of dwarf habits. The foliage is of a yellowish green. It flowers from seed the first year; it is perfectly hardy, and flowers strong the second year. The colors are exceedingly rich; crimson, and dark shades of that color approaching to black, are often combined in the same flower, with edgings of white, pink, or other colors. Seed, saved from double flowers, will produce a great portion of double varieties. In beds where there may be a hundred plants, scarcely two will be found alike. They are in flower a number of months.

Dianthus barbatus, — Sweet William, — is an old inhabitant of the flower-garden, and was much esteemed in Gerard's time, "for its beauty to deck up the bosoms of the beautiful, and garlands and crowns for pleasure." It is an imperfect

perennial, but fine varieties are easily perpetuated by dividing the roots, soon after flowering, in June or July. It is easily raised from seeds. A bed of fine varieties presents a rich sight; it sports into endless varieties, viz., white, pink, purple, crimson, scarlet, variously edged, eyed, and spotted. There are also double varieties, but they are no improvement over the single.

Dianthus superbus. — Superb Pink. — This is one of the most fragrant of pinks, flowering in July and August; two feet high; the petals are very much cut or fringed; flowers white.

Dianthus plumaris. — Feathered Pink. — The edges of the flower are deeply fringed, or feathered; very fragrant; twelve to eighteen inches high in July; white, or pink, with a dark eye; sometimes called Pheasant-eyed Pink.

Dianthus alpinus. — Alpine or Dwarf Pink. — A pretty little perennial, suitable for rock-work, with creeping roots; although not aspiring, (not exceeding three or four inches in height,) soon takes possession of all the ground in the neighborhood. The flowers are white, or flesh color, variegated with a circle of red, or purple, in June and July.

There are many other species and varieties of Pinks, annual, biennial, and perennial, all worthy a place in the garden.

DICTAMNUS.

Dictamnus fraxinella, — Red Fraxinella, — an ancient name of what is now supposed to be the *Origanum dictamnus*. *Fraxinella*, in allusion to the remarkable similarity which exists between the leaves of the plant and *Fraxinus*, the ash. The whole plant, especially when gently rubbed, emits an odor like that of the lemon-peel, but, when bruised, has something of a balsamic scent. This fine scent is strongest in the pedicels of the flowers, which are covered with glands, of a rusty red color, exuding a viscous juice, or resin, which exhales in vapor,

and in a dark place may be seen to take fire. It flowers from May to July ; three feet high ; from Germany. There is also a variety of species with white flowers ; propagated by parting the roots.

DIGITALIS.

Foxglove.

Digitalis ; named, by Fuchs, from *digitabulum*, a thimble, in allusion to the form of the flowers.

The species are, for the most part, showy border flowers, of easy culture.

Digitalis purpurea, with purple flowers ; also a variety, *D. alba*, with white flowers ; ornamental plants of great beauty, producing dense spikes of flowers on stems, three, four, or five feet high, in June and July, and straggling spikes most of the season. It is a biennial, propagated by sowing the seed, which flower the second year. The plant sometimes flowers the third year. It may be perpetuated by dividing the roots every year, and is sometimes called an imperfect perennial.

The plant is a violent poison, but valuable in medicine. It is suitable for the border, and may be introduced into the shrubbery with fine effect, as its tall, spire-like spikes, crowned with its large thimble or bell-shaped purple or white flower, will finely contrast with the green foliage of the shrubs.

Digitalis ferruginea, or Iron-colored Foxglove ; a hardy perennial, with brown flowers, from July to August ; four feet high.

Digitalis lutea, or Small Yellow Foxglove ; a hardy perennial, with light yellow flowers, from July to August ; two feet high.

Digitalis ochroleuca. — Great Yellow Foxglove. — A hardy perennial, with large light yellow flowers, from July to August ; four feet high.

Digitalis lanata, — Woolly-flowered Foxglove, — with white and brown flowers, from July to August ; two feet high.

D O D E C A T H E O N .

Dodecatheon is a name of the Romans, signifying twelve gods or divinities.

D. media. — American Cowslip. — A highly ornamental plant, displaying its flowers in May and June ; throwing up stems a foot high, with a large, umbel-like cluster of singularly beautiful pale purple flowers. The petals are reflexed, or thrown back from the centre, like the *Cyclamen*. There is a variety with white flowers. Soon after flowering, the foliage dies down, and the plant is dormant during the summer, when it may be propagated by parting the roots, leaving a bud, or the rudiments of one, on the crown of each. It is a native of the west and south, and perfectly hardy.

D R A C O C E P H A L U M .

Dragon's Head.

Dracocephalum, from Greek words signifying a dragon's head, because the flowers are fancied to resemble a dragon's head. Most of the species are hardy perennials, easily propagated from divisions of the root, and worthy of a place in the garden.

D. Virginicum is a beautiful plant, producing its flowers in dense, one-sided clusters, or spikes, of a purplish color, on stems three feet high, from July to September.

D. dentatum, — Dentated-leaved Dragon's-Head, — resembles the last, but of a more dwarf habit ; two feet high ; flowers pink, in July and August.

D. variegatum. — Variegated Dragon's-head. — Flowers pink, variegated with darker shades.

D. speciosum. — Showy Dragon's-Head. — Pink flowers, in July and August; three feet high; a native of Siberia.

D. Sibiricum. — Siberian Dragon's-Head. — One foot high, from Siberia, with light-blue flowers, in July and August.

EPILOBIUM.

Willow Herb.

Epilobium, from Greek words, signifying a flower growing upon a pod. *E. augustifolium*, and other species, are valuable in shrubberies as thriving under the drip of trees, and succeed everywhere, even in the smoke of cities, and in parks. It is a good plant to adorn pieces of water, being hardy, and of rapid increase, and very showy when in flower.

The species *E. spicatum* and *E. coloratum* are indigenous, and may be found growing in great luxuriance on newly-cleared land, among the raspberry bushes, and in other localities. It produces dense spikes of purplish red flowers, three or four feet high, in July and August. It is often thought to be a species of Phlox, by persons unacquainted with botany, as at a short distance it has some resemblance to some of that family; but, upon examination, it will be found to be very different. It is easily propagated by cuttings of its long, straggling roots. It is found growing in rather a light soil.

ERYTHRONIUM.

Dog's-tooth Violet.

E. Americanum, — Yellow-flowered Dog's-tooth Violet, — is a beautiful native plant, found in moist woods and thickets. Its roots are bulbous, running deep into the ground; they cannot be removed in safety in the spring; in July, they may be carefully dug up and planted in a shady place in the garden. Flowers yellow in May; three inches high.

EUPHORBIA

Spurge.

Euphorbia corollata. — Great-flowered Euphorbia. — This is one of the most elegant species peculiar to the United States ; a perennial, with subdivided umbels of conspicuous white flowers, and narrowish, oblong obtuse leaves. This plant is not uncommon in the sandy fields of the Middle States, and is in flower in June and July. Propagated by divisions of the root.

Euphorbia lathyris. — Common Caper. — A half-hardy biennial. A plant of handsome appearance, with inferior flowers from May to September, — from England. From three to four feet high. The plants will stand the winter without protection, but are oftentimes entirely destroyed. A few plants should be taken up and placed in a dry cellar, and planted out in the spring.

EUPATORIUM.

Thoroughwort.

Eupatorium purpureum. — Purple Thoroughwort. — Purple flowers in August ; perennial ; four to six feet high ; indigenous ; leaves in fours and fives. This plant cannot be said to be elegant, yet it is not destitute of beauty, and will be a valuable acquisition to the shrubbery. Its tall stem terminates in large corymbs of small shining purple flowers.

Eupatorium caelestinum. — Sky-blue Eupatorium. — A perennial ; two feet high. This is the most beautiful species in existence. It grows wild, from the Potomac to the Mississippi. Its flowers, produced very late in autumn, are of a beautiful smalt or sky-blue. The roots of this species are creeping, from which it is easily propagated.

Eupatorium perfoliatum. — Bone-set, or Medicinal Thoroughwort, — is a plant whose medicinal virtues are held in high estimation ; but it has no claim to beauty.

GENTIANA.

Gentian.

Gentiana saponaria. — Barrel-flowered Gentian. — A handsome indigenous perennial, with blue flowers in September. From one and a half to two feet high. A curious, barrel-shaped flower, to be found on the margin of streams. It may be transplanted to the garden without difficulty.

Gentiana crinata. — Fringed Gentian. — An elegant, delicate flower, that may be found in meadows in September and October, and ranked with one of our handsomest indigenous plants. The corolla is pale-blue, four-cleft, segments finely fringed; — perennial. Propagated from the seed. Should be sown as soon as ripened. There are many other beautiful species of Gentians, suitable for the border, highly esteemed in England, but hardly known here.



GERARDIA.

American Foxglove.

Gerardia; in honor of John Gerarde, the old English botanist.

Gerardia flava, and *G. quercifolia*, are beautiful native plants, with five large, bell-shaped, yellow flowers, but difficult to introduce into the flower-garden. Probably they would succeed from seed, if planted in a shady place.



GILIA.

Gilia coronopifolia, the *Cantua coronopifolia* of Willdenow. — The different names of *Ipomopsis*, *Cantua* and *Ipomea*, have given place to *Gilia*, amongst which genus, after minute examination, this flower has been most properly classed. It was

first introduced into England about the year 1720, from seeds collected by Catesby, in the upper districts of Georgia and Carolina; but as the seeds are seldom perfected in that climate, all traces of it have been lost, until very recently; we do not think that its beauty will allow it to share this fate again, while the attention to horticulture remains in its present state.

It is a biennial, of most elegant appearance, but is very subject to damp off, and difficult to keep through the winter. Much protection is sure to kill the plants. It has generally been considered a tender plant, and treated as such. Having many fine plants, I distributed them in various exposures, in hopes to save some. About half of the whole number were in fine condition in the spring. The driest soil, in the shade of a fence, seems to be the most favorable situation for them. If the ground is inclining to moisture, there is but little chance for them. So fine a plant as the *Gilia* deserves a place in every garden. I should recommend, for experiment, to sow the seed in August, as, perhaps, the small plants would endure the winter better than large ones.

The plant grows from four to five feet high. The foliage is superb, similar to the Cypress vine, with numerous scarlet-spotted flowers, that continue in bloom a number of months.

The plants may be potted and kept in the house, or greenhouse, through the winter, and then planted out in the open border.



GLYCINE.

Ground-nut.

"*Glycine*, from *glykys*, sweet; the leaves and root of one species are sweet. *Glycine frutescens*, and especially *Glycine sinensis*, (now *Wistaria consequena*,) are most beautiful hardy climbing shrubs, with long, pendulous branches of blue flowers, like the Laburnum."

Glycine apios, or ground-nut, indigenous and common in rich, moist woods and thickets, produces flowers in axillary, crowded racemes, of a blackish purple, and makes a pleasing addition to the various ornaments of the border. Its roots are strings of oblong cylindric tubers, frequently known by the name of pig, or Indian potatoes; when roasted or boiled, they are eatable, having a flavor approaching the common potato, and said to have made an ordinary part of the vegetable food of the aborigines. The leaves are pinnated, each consisting of from five to seven ovate acuminate leaflets. Stems round, twining; from six to eight feet high; flowering in July and August.

GERANIUM.

Geranium pratense. — It is said that "its flowers partake of a degree of delicacy by which it greatly surpasses in effect its more common blue congener. Its flowers vary much in the portion of color which they display, some being nearly all blue, whilst others are produced completely white."

Geranium angulatum. — Angular-stalked-Crane's bill. — This species is a native of Europe, and has been cultivated since 1789. A perennial, of easy culture, eighteen inches high, with a profusion of pink flowers in June.

"The *Geranium angulatum*, from its numerous flowers, is highly ornamental. It may be appropriately planted among low shrubs, or strong herbaceous plants; and it will succeed in rather shady places, which renders it oftentimes a desirable plant. Divisions of the roots afford sufficient increase."

GLAUCIUM.

Glaucium fulvum. — Horned Poppy. — It has an unlucky common name, otherwise it would, perhaps, be more generally introduced into the garden than it appears to be, as it deserves a

place in every collection, not so much for its flowers, which are very pretty, but particularly for its “sea-green, dew-bespangled leaves,” which are universally admired, and peculiar to the genus. The flowers are yellow or orange, and continue through the season. It is a biennial, a native of the south of Europe.

“The whole plant abounds in a yellow juice.”

G. luteum with yellow, and *G. phæniccum* with red flowers, are annuals.



HEPATICA.

Early Anemone.

Hepatica triloba. — Three-lobed. — This delicate little plant is one of the earliest visitors in spring, flowering in sunny spots before the snow has left the ground. The flowers are bluish-purple, and sometimes white. The leaves are heart-shaped at base, divided into three lobes. Found in open woods. It succeeds well in a shady place in the garden. There are some lovely cultivated varieties, with double blue, red and white flowers, but they are rarely seen in collections of plants.



HESPERIS.

Garden Rocket.

Hesperis matronalis. — Dame's Violet. — The single varieties of this fragrant flower are common in most gardens. It is a biennial or imperfect perennial, easily raised from seeds, producing flowers the second year, on long spikes, in May and June, of various shades, from pure white to purple; three to four feet high. Fine varieties may be perpetuated by divisions of the root. Perfectly hardy. The double varieties of this flower are superb, and highly esteemed for their fragrance and beauty.

There is a purple and white variety, both very double, forming a spike about one foot high. It was known in Gerarde's time, and cultivated by him in 1597. He remarks, "By the industry of some of our florists, within these two or three years, hath bin brought unto our knowledge a very beautiful kind of these Dame violets, having very fair, double, white floures." These double varieties are very difficult to preserve, consequently rarely to be seen.

HELIANTHUS.

Sun-Flower.

Helianthus, from Greek, signifying the sun and a flower. Nothing can be a more complete ideal representation of the sun, than the gigantic annual Sun-flower, with its golden rays. It is dedicated, with great propriety, to the sun; but the idea, entertained by some, that the flowers are turned to the sun at all hours of the day, is erroneous.

There are varieties of indigenous perennial Sun-flowers, that produce a profusion of yellow flowers in autumn; which, being generally tall-growing plants, (from four to six feet high,) might be an additional ornament to extensive shrubberies.

Helianthus multiflora. — Many-flowered. — The double variety of this plant has large deep-yellow flowers, in August and September, of the size and form of the Dahlia. It has thick, fleshy roots, every piece of which will make a strong plant when planted in the spring. I have found it rather tender in moist ground, but in dry locations, with a little protection, it stands the winter; — five to six feet high.

HEMEROCALLIS.

Day Lily.

Hemerocallis, from the Greek words, signifying beautiful day-lily; part of the tribe is now separated in the genus *Funkia*. It is an ornamental tribe, of the easiest cultivation.

Hemerocallis flava, — Yellow Day Lily, — has a brilliant yellow lily-shaped flower in June; two feet high; leaves long-keeled, linear.

H. fulva. — Copper-colored Day Lily. — An old inhabitant of the flower-garden; in flower most of the season; four feet high; flower, yellowish copper-color; leaves like the last, but much larger.

H. cærulea, now, *Funkia cærulea*, — Blue Day Lily, — is a plant with broad ovate leaves; flowers blue, in June and July; two feet high.

H. japonica, or *Funkia japonica*, — White Day Lily, — has large, pure white, fragrant flowers, which open daily in the month of August, on stems one and a half to two feet high; leaves broad ovate, nerved.

These and other Day Lilies are hardy, easily propagated by division of the roots, and require little or no protection.

HIBISCUS.

Hibiscus is one of the Greek names for the Mallows. The species are for the most part showy, and easily cultivated; the flower is Mallows or Hollyhock shaped.

Hibiscus militaris. — Halbert-leaved Hibiscus. — This is a fine species; growing six to eight feet high; producing very large white flowers, with a deep-red centre. In August and September.

H. palustris, — Marsh Hibiscus, — is found growing in some parts of New England, by the sides of streams; it has large pink flowers. The height and habits are like the last. They are easily propagated from seeds or divisions of the root. They succeed in any good garden soil; but flourish better in a moist low ground. It is well adapted for planting in the shrubbery.

HYPERICUM.

St. John's-wort.

Of this plant there are several varieties growing wild, which are troublesome weeds.

Hypericum ascyroides. — Giant Hypericum. — This is a tall plant, three or four feet high, with large yellow flowers with numerous stamens; it prefers the shade of trees, which makes it a valuable ornament for shrubberies.

IBERIS.

Candy Tuft.

There is but one species of perennial Candy Tuft generally known among us, and this is deserving a place in every garden, which is *Iberis tenoreana*. This plant is half shrubby at the base, with delicate linear foliage, and is covered with a profusion of its pure white flowers, in umbel-like corymbs, in June and July. The stems are rather decumbent and spreading; about six inches high. The plant is propagated by layers, or cuttings. It is not inclined to make itself too common, like some plants; for, unless special pains are taken, it will not increase.

IRIS.

Fleur-de-luce.

"The enamelled earth, that from her verdant breast
Lavished spontaneously ambrosial flowers,
The very sight of which can soothe to rest
A thousand cares, and charm our sweetest hours."

The bulbous-rooted species of this very extensive and ornamental family have already been treated of. — See page 59. —

The species and varieties of the Iris are almost without end; most of them tuberous-rooted; of easy culture and propagation, by division of the roots; suitable for the border, most of them being hardy. I shall note such as have come under my observation.

Iris pumila, — Dwarf Iris, — is from three to six inches high, with rich purple flowers, early in May.

I. cristata, — Crested Iris, — is another dwarf variety, of the same height of the last, with elegant, variegated, light-blue, crested flowers, in May; with creeping roots; a very desirable species.

I. florentina, — Florentine Iris, — has large white flowers, in May and June; two feet high.

I. germanica, — German Iris, — is the common Fleur-de-luce of the gardens well known to all. Flowers large, blue and purple; two feet high; May and June; similar to the last in size and habits.

I. pallida. — Pale Turkey Iris. — A very fine species, with straw-colored flowers, veined with brown. One and a half foot high; in June. The stems are many-flowered, and stand above the leaves.

I. variegata, — Variegated Iris, — is a very delicate and elegant species. The flowers bluish-white, elegantly feathered with blue; in June; stem many-flowered, two feet high.

I. sambuciana. — Elder-scented Iris. — A very beautiful species, with brilliant, pale-blue, variegated flowers, on stems, many-flowered, four feet high, standing above the foliage, which is long and narrow, or more grass-like than the common sorts. The roots of it are of a more fibrous character than most of the family, and mat together so hard that they are with difficulty separated. A clump of this, with its numerous rich flowers rising above their graceful foliage, makes as much show as any other plant of its season. The last of June.

I. pseud-acorus, — The Yellow-water Iris of England, — has handsome yellow flowers, the last of June, three feet high.

I. caelestina. — Sky-blue Iris. — This is a magnificent plant,

with long, broad leaves, and very large, light-blue flowers, on stems three feet high.

I. versicolor. — Blue Flag. — This is a fine indigenous species, a showy ornament of our meadows in the early part of summer. It succeeds well in the garden.

I. gracilis is another native species, but not very common. It has grass-like foliage, with stems one foot high, with a number of small purple flowers, veined with yellow; very pretty.

There are many other fine *Iris* in cultivation, with which there has been such a hocus-pocus game played by the florist, that it is impossible to tell their origin. I have a number of varieties of this kind: one, a dwarf yellow, one foot high; another, of the same height, upper petals yellow, lower ones rich brown; one ash color, shaded with blue; one rich dark-purple; and a yellow flower, with variegated leaves. There are, also, varieties innumerable, with every mixture of yellow, blue, brown, purple, and white in their coloring.

LATHYRUS.

Everlasting Pea.

Lathyrus latifolius, or Everlasting Pea, is a most beautiful, large, diffuse perennial, producing a long succession of large light-purple or pink flowers, in clusters of eight or ten each. The plant is suitable for the shrubbery, arbors, or for training to a trellis. When supported, it attains the height of six feet. "It attaches and supports itself, like all scandent plants, by means of the branching tendrils terminating its single pair of broad leaflets, and which twining, economical processes are, in fact, reasoning from strict analogy, the abortive rudiments of other sets of leaves, though never developed."

A variety has white flowers. It may be propagated by dividing the roots, or more extensively by sowing the seeds,

which ought to be planted where the plant is to stand, as it sends down a tap root to a great depth.

Young plants will flower, the second year, feebly, but the third or fourth year they produce a profusion of foliage and flowers. Some botanists have suggested that it might be applied to agricultural purposes with profit, on account of its yielding so great a quantity of fodder and seed.

Lathyrus grandiflorus. — Great-flowered Everlasting Pea. — The flowers are very large, rose-colored, and appear two or three together; the foliage and stems light and elegant. Not in common cultivation.

LAMIUM.

Lamia was a celebrated sea-monster. The flowers of this genus have a considerable resemblance to the grotesque figure of some beast. Most of the species are ugly weeds.

Lamium rugosum, or Rough-leaved Lamium, produces clusters of its curious white flowers all the season, and is suitable for rock-work. The odor of the plant is rather unpleasant.

LOBELIA.

Cardinal Flower.

The generic name is in honor of M. Lobel, physician and botanist to James I. The genus is very large, containing more than eighty species. The predominant color is blue. Many of the family are very ornamental. The most desirable for the border, that are much known, are *L. cardinalis*, *siphilitica*, *fulgens*, *splendens*, and *speciosa*. The two first will stand the winter very well, with some protection; but the last three must be potted in the fall, and kept in a frame, or in the cellar, and planted out in the spring.

Lobelia cardinalis. — Scarlet Cardinal Flower. — This

splendid native plant embellishes the borders of our brooks and rivulets, in the months of July and August, with its unrivalled scarlet blossoms. It is a mistaken notion that it will flourish only in wet ground. I have taken it up, when growing in water, and planted it in a soil that was far from being moist, with good success. It was introduced into England in 1629, and, to this day, is duly appreciated. Justice, who published a work on gardening, in 1754, in describing it, says : — “It is a flower of most handsome appearance, which should not be wanting in curious gardens, as it excels all other flowers I ever knew in the richness of its color.” It has an erect stem, two to three feet high, with broad lanceolate, serrate leaves; flowers in terminal spikes, pointing one way. The roots of all the species are composed of many white fleshy fibres.

L. fulgens, — the Fulgent Cardinal Flower, — is a native of Mexico, and was introduced into England in 1809. Leaves narrow lanceolate, toothed, revolute at the edge; stem pubescent, (downy,) three feet high; its bright scarlet flowers in terminal racemes.

L. splendens, — the Splendid Cardinal Flower, — is also a native of Mexico, introduced into England in 1814. Leaves narrow lanceolate; stem quite smooth, three feet high; flowers brilliant scarlet, in terminal racemes.

L. inflata, or Bladder-podded Lobelia, is probably familiar with every one, at least its name. Its virtues are so highly prized by some, that we are almost led to suppose that it is a sovereign remedy for all diseases that flesh and blood are heir to. The plant is an annual, of not much interest, with small blue flowers, and inflated pods or seed-vessels, common in dry pastures and road sides. The whole plant is a violent emetic. It is not used often by regular practitioners.

L. speciosa, — the Showy Cardinal Flower, — “is a new and very late introduced variety. It was found growing among the other varieties, in a flower border in Scotland, and is supposed to be a hybrid between *siphilitica*, and either *fulgens* or *cardi-*

nalis. Its rich purple blossoms form a fine contrast with the bright scarlet ones of the other varieties." The leaves like *fulgens*; stem also pubescent.

L. siphilitica, — the Blue Cardinal Flower, — is a native of Virginia, and introduced into England in 1665. "It has its specific name from its supposed efficacy in the cure of the syphilis, among the North American Indians. Sir William Johnson purchased the secret from them, but Woodville says its virtues have not been confirmed by any instance of European practice." Stem erect, two feet high; raceme leafy, with flowers of a bright sky-blue.

The treatment is the same for all those enumerated. I once had them in great perfection, having a soil and situation well adapted to their growth, with a little preparation. The soil, naturally, was a black, heavy loam, upon a clay and gravel subsoil, a little springy, and never very dry. On the spots designed for their location, I threw four or five shovelfuls of river-sand, and two of partly decomposed night-soil compost, and had it thoroughly incorporated with the soil, for two feet round, which made it quite light, and placed the plants in the centre. They began to flower in July, and continued to throw up vigorous stems, with an abundance of flowers, until October. Their growth was so luxuriant, that it was necessary to tie up to slender rods, stuck into the ground, a number of times, to prevent them from being broken by the wind. *Cardinalis* and *fulgens* were more than three feet high; the others between two and three feet. They may be easily propagated, by laying the stems in July and August, or dividing the roots in the spring, or by seed.

"Van Mons observes, that *L. cardinalis* perishes in sandy soil, but becomes strong and multiplies in loam, while, at the same time, it produces the most brilliant colors in the former.

"The same thing may doubtless be predicted of the other species, it being a well-known law of nature, as to living

beings, that their energies are concentrated in proportion to the obstacles thrown in the way of their expansion."

L. spicata. — Synom. *pallida*. — A beautiful indigenous species, common in most pastures and by the road sides, with lively pale-blue flowers, in long terminal spikes, in July. Stem upright, smooth, a little hairy, one and a half foot high. I have never seen this species cultivated, but have no doubt but what it would be very much improved, and prove a valuable acquisition to the border.

I have succeeded with *Lobelia cardinalis*, in rather a dry, loamy soil, without much care; but, to have it in its greatest perfection, it should have a moist location.

LUNARIA.

Honesty.

Lunaria biennis. — Honesty is an old-fashioned plant, flowering the second year from seed, and then dying. It produces large purple flowers, in May and June, that are succeeded by large elliptical pods, which, when dry, are rather ornamental. Lunaria is from luna, the moon, in allusion to the broad, round, silvery pods or silicles.

LUPIN.

Most of the species are ornamental plants, suitable for the garden; some annual, but mostly perennials.

Lupinus perennis is a well-known species, indigenous to many parts of New England, found, frequently, in large masses, from a yard to two rods in circumference, occupying the very poorest sandy or gravelly arid soil; frequently in company with the pretty *Silene Pennsylvanica*, or Wild Pink, and more

commonly with *Viola pedata*, or Bird's-foot Violet, all of which are in bloom about the first of June. It is very difficult, or even impossible, to transplant, with success, this fine perennial. The only sure way to propagate it is by seed, which should be gathered before it is entirely ripe, as it is scattered, as soon as mature, by the sudden bursting of the pod, by which the seed is thrown to a considerable distance. Nor will it succeed, like the last described species, on rich ground; but whenever the seeds are to be sown, the soil should, in the first place, be removed, or a greater part of it, from a circle whose diameter is three or four feet, and the hole be filled up with a poor, gravelly or sandy soil, and the seed sown in the centre.

The flowers are found, in the wild state, of various colors and shades, from pure white (which is rare) through all the shades of light to dark-blue, inclining to purple; the margin of the flowers is frequently copper color, sometimes inclining to red. One variety has flowers of a dull pink. Stem erect, hairy. The digitate leaves are composed of about eight or ten leaflets, which are lanceolate, wedge-shaped, arranged like rays around the end of the petiole; hairy and pale underneath.

Many beautiful Lupins have, within a few years, been added to the list of herbaceous plants, chiefly through the exertions of Mr. Douglas, in his excursions in North and South America, most of which were found on the North-west coast, from California to the Columbia river, which part of the world seems to be the central position, or head quarters, of this genus of plants, more being found here than in all the world besides.

Lupinus polyphyllus, — Many-leaved Lupin, — is a splendid plant, from the north-west coast of North America. The following account, which I gave of it fifteen years ago, is as good as new: —

“I received seed of this fine Lupin, a few years since, only one of which vegetated. It produced radical leaves, only, the first year, which were multifoliated, and borne on long petioles. The second year, it was transplanted, with much care, into rich soil, having been exposed, through the winter, to all the rigors

of the season, without protection. In the month of May the flower-stalks began to be developed, and produced, in June, spikes of flowers, which were two feet in length, and from three to four feet in height from the ground. The flowers are disposed in long terminal clusters, of a beautiful azure blue, with a reddish border, forming a kind of whorls, very near each other, round the stem. The leaves are composed of from twelve to fifteen green, lanceolate leaflets, hairy on the under side. The flowers resemble those of blue Sophora, (*Baptisa australis*.) but far more elegant. The third year it flowered abundantly, throwing up numerous flower-stems, so luxurious that many were broken by the wind before they were secured by stalks. The third year the roots should be divided, as they become large in rich ground; the central part first decays, and finally the whole root perishes, unless this operation is performed. There is also a white variety."

There is also a number of other species, among which are *L. grandiflora*, and other fine sorts. They are best propagated by seeds; but, with care, some of the sorts may be increased by divisions of the roots.

LYCHNIS.

Lychnis chalcedonica. — Scarlet Lychnis. — This is common in most gardens, under the name of London Pride. It is an esteemed border flower, of easy cultivation. The flowers are brilliant scarlet, which make it more valuable, as comparatively few flowers of that color are to be found among hardy herbaceous plants. One of the most splendid decorations of the border is the Double Scarlet Lychnis. It is propagated only by divisions of the root, or cuttings of the flower-stem; the single variety is raised freely from seed. The cuttings are taken off at any time when the shoots are tender, and planted in a sandy loam, in a warm situation, but covered with a hand-glass and shaded from the sun. When well-established, they may be transplanted into the bed or border where they are to remain,

and will flower strongly the next year. There is also a single and double white variety. All the varieties do best in a light, rich, loamy soil. It is necessary to take up and divide the roots every other year. The best time to do this is early in the spring. A light protection is necessary to the double varieties, to insure a vigorous bloom. The flowers are fascicled, (collected in bundles,) level-top or convex; two feet high; in June and July. The double varieties continue to give flowers until autumn.

L. fulgens, — splendid, — is a hardy species from Siberia, with scarlet flowers; one foot and a half high; not common with us.

L. coronata is a showy species from China. The flowers are large, solitary, terminal, and axillary, red, the petals torn; one foot and a half high. Unfortunately, this beautiful plant will not stand our winter in open ground; it therefore requires to be taken up and potted in autumn, and protected in the house or frame. It thrives and flowers abundantly most of the season, if planted out in the spring. It may be raised from seeds or cuttings.

L. flos cuculi. — Ragged Robin. — This is an old inhabitant of the flower-garden, a native of Britain. The double variety is deservedly esteemed, is very ornamental, easy to cultivate, and flourishes in any common garden soil. It is propagated by divisions of the root. Flowers fine deep pink.

L. viscaria, with pink; *L. diurna*, with purple; and *L. vespertina*, with white flowers, all natives of Britain, are handsome border flowers in their double varieties.

L. viscaria plena is a fine border flower, and very hardy; one foot high in June.

LYSAMACHIA.

Loose Strife.

Most of the species are bog plants, of the easiest culture.

L. mummularia, — Moneywort, — is an ornamental, creep-

ing perennial, with yellow flowers all the season, suitable for rock-work, or hanging from a pot in a northern exposure; a number of the indigenous species are worth cultivating.

LYTHRUM.

Willow Herb.

Lythrum, from the Greek, black blood; in allusion to the color of the flowers.

L. salicaria is a native British perennial, and is considered a handsome border flower; three or four feet high, with purple flowers in July and August; leaves opposite, cordate, lanceolate; flowers in spikes.

MALVA.

Mallows.

Some of the species are showy plants. All the species are of the easiest cultivation.

M. alcea. — A pretty, hardy perennial, from Germany, with purple flowers from July to October; three feet high; easily propagated by seed or divisions of the roots.

Varieties of the same, with pink and white flowers; lower leaves angular; upper, five-parted, cut; stems and calyxes velvety.

MONARDA.

Tall Balm.

Monarda, in honor of Nicholas Monardez, a physician of Seville in the 16th century. Most of the species are aromatic, and resemble mint in their habits and mode of culture.

M. didyma. — Oswego Tea. — A perennial, native of North America, as are all the species; an ornamental plant, three feet high, with very brilliant scarlet flowers from June to August.

The leaves are sometimes used as a substitute for tea, and known by the name of crimson balm, or bergamot.

M. fistula has light purple flowers, not so handsome as the last. There are also other species which, in a large collection, would be interesting.



ŒNOTHERA.

Evening Primrose.

A number of the family are hardy perennial border plants. The flowers of most of the species expand in the evening.

O. macrocarpa. — This showy species has large, fleshy roots, which throw out decumbent stems, producing in succession, through the summer, numerous large yellow flowers, four or five inches in diameter.

O. speciosa has creeping roots, with stems one and a half foot high, with large white flowers, from June to September.

O. fruticosa has rather shrubby stems two feet high, with dark yellow flowers in July and August.

O. fraseri is one and a half foot high, with yellow flowers, from June to October.

O. taraxiciflora is a magnificent perennial, not very common, with large white flowers. All the species succeed well in any common garden soil, and easily propagated from divisions of the root, and from seed when it can be obtained.



ORCHIS.

This is a beautiful and very curious genus of plants, of which we have a number of native species, growing mostly in swampy places. They will not succeed well in the garden,

unless they can have a moist, shady place, with a soil similar to that from which they were taken. The flowers are produced on leafless stems in spikes, from one to two feet high, in July and August. Some have pink, and others white, finely-fringed flowers.

OROBUS.

Bitter Vetch.

Orobus niger is a hardy perennial, with which we have been acquainted for a number of years, and can recommend it as being pretty, with very dark purple flowers, which are produced in June and July; two or three feet high; stem branched; leaves in six pairs, ovate oblong; racemes one-sided, many-flowered.

O. atropurpureus. — The flowers are a fine purple, in a dense, one-sided, many-flowered raceme. In the gardens it is a hardy perennial, flowering in May.

O. luteus is considered by some as the handsomest of the papilionaceous tribe.

PAP AVER.

Poppy.

Papaver orientalis. — Oriental Poppy. — This is a most magnificent perennial, worth all the rest of the Poppy tribe. Its large, gorgeous, orange scarlet flowers, display themselves in the month of June. The bottoms of the petals are black; the stigma is surrounded by a multitude of rich purple stamens, the anthers of which shed a profusion of pollen, which powders over the stigma and the internal part of the flower, giving it a very rich appearance.

The flower-stems are rough, three feet high, each one bearing a single solitary flower, five or six inches in diameter. A clump, with twenty or thirty of these flowers, makes one of the most

conspicuous and showy ornaments of the garden. Leaves are scabrous, (rough,) pinnate, serrate. Propagated by dividing the roots, which should be done as soon as the foliage has died down in August, as it commences growing again in September, and throws up leaves which remain during winter, it being one of the most hardy plants. If deferred until spring, if it flowers at all, it will be weak. It may also be propagated from seed, but does not commonly flower until the third year. A native of Levant.

Papaver bracteatum, — Bracted Poppy, — is another superb perennial, very much like the last, a native of Siberia. The flowers are a deeper red, and the only essential difference is in the leafy bractes by which the flowers are subtended. Propagated in the same way; with us, it has not flowered so freely.

"*Papaver cambricum* is admired for its yellow petals." It is now called *Meconopsis cambrica*; not common with us. There are also a number of other species and varieties of perennial poppy, as *P. nudicaule*, with two or three varieties with yellow, and one with scarlet flowers, from Siberia, one foot to one and a half high. *P. pyrenaicum*, from the Pyrenees, with yellow flowers, and a variety with red, one foot high. *P. alpinum*, from Austria, has white flowers three quarters of a foot high.

PENTSTEMON.

The genus *Pentstemon* embraces a family of beautiful plants, worthy the attention of the amateur. Most of the species are hardy, while others require the protection of the frame during the winter. The genus is peculiarly American, abounding in the west and south-west of our vast country, and Mexico. The flowers of all the species are bell-shaped, more or less open. The colors are scarlet, purple, blue, &c.

The following species have flowered in our collection: —

P. pubescens produces purplish blue flowers in June ; one and a half foot high ; leaves downy.

P. laevigatum is very similar, excepting it has smooth leaves and paler flowers ; two feet high.

P. pulchella has large, bell-shaped, pale-purple flowers in autumn ; one foot high.

P. atropurpurea has dark ruby-purple flowers from July to October ; one and a half foot high.

P. cæruleum is one of the finest of the genus, with beautiful blue flowers in August and September ; one and a half foot high.

P. coccinea is similar to *P. atropurpurea*, excepting the flowers are scarlet.

All the species may be propagated by dividing the roots, if done with care ; or by cuttings, the most certain method ; or by layers. They may also be raised from seed, which should be sown in May, in the open ground, in a moist, shady place. There are numerous varieties and species, besides those here named.

PHLOX.

" Your voiceless lips, O flowers, are living preachers, —
Each cup a pulpit, and each leaf a book,
Supplying to my fancy numerous teachers,
From lowliest nook ! "

It has been truly said that a collection of Phloxes, when properly attended to, would of themselves constitute a beautiful flower-garden. So numerous are the species, and so infinite the varieties, that a continual bloom may be kept up, with a good selection, from May to October. The genus is exclusively North American, and, in the South and West, is one of the most conspicuous ornaments of the prairies and woods.

The late-flowering sorts are much to be prized on account of their lively colors of purple, red and white, and form a fine contrast with the other autumnal flowers, which are mostly yellow.

The vernal ones, too, are acceptable, though humble in growth, and delight the eye with their brilliancy and loveliness. The summer varieties embrace some of the most beautiful sorts; they being intermediate in height, more delicate in foliage, and include most of the fine new eyed, striped or shaded varieties. They flower the second time if cut down immediately after flowering, in July.

While many herbaceous plants require protection in winter, none of those I am about to describe need it, with the exception of the dwarf species, which are evergreen; the flower-buds are formed in autumn, and should be slightly protected, or rather shaded. It is not so much the cold as the powerful March sun which does the damage; all that is necessary, in most cases, of protection, is to prevent the action of the sun upon the plant when in a frozen state. Most of the species delight in a moist, rich soil, but succeed tolerably well in almost any situation, provided that it is not very light and dry. No plant is more easily propagated. It is done generally by dividing the roots immediately after the bloom is over, for the early-flowering sorts, and in the spring for the late ones. They may also be raised easily from cuttings, and from seed.

CLASS I. — EARLY VARIETIES — FLOWERING IN MAY.

Phlox subulata. — Moss Pink. — The leaf is subulate or awl-shaped; that is, narrow at the base, and becoming more or less curved to one side at the point. This pretty species displays its showy pink flowers the last of April, and in such profusion as to conceal its yellowish-green foliage, and continues in bloom for nearly a month, and is companion with the two following, and, like them, from four to six inches high. It is known by the common name of Moss Pink. It can be so rapidly increased that it may be used to advantage for edgings, but requires some care to keep it in order.

There are many improved varieties of this species, viz., white, purple, large pink, lilac with a red eye, &c.

Phlox stolonifera. — Creeping. — The plant puts forth suckers or shoots near the surface of the earth, which take root, something after the manner of the strawberry. Leaves ovate, (egg-shaped,) brownish-green; stem erect, bearing a few large deep-red flowers, which begin to expand a few days later than the preceding. A very lovely species and worthy of cultivation.

Phlox nivalis. — Snow-white. — The flowers are brilliant snowy white, marked with orange in the centre, on the end of the branches, in bunches from three to five, and make their appearance from the tenth to the middle of May, and continue until the first of June. If the autumn is mild, it will produce a second crop, but not in such profusion. Leaves setaceous, (bristly,) shining deep-green. This is the most tender, and is generally more or less injured without a little protection, and it is undoubtedly one of the most elegant of the family: not common; now lost from my collection.

Phlox divaricata. — Branches divaricate; that is, spread out so far from the stem, as to form more than a right angle with it above. This beautiful species flowers the last of May, very large, pale-blue, on lax decumbent stems, one foot high. Leaves ovate lanceolate, (egg-shaped at the base, tapering off at the point like the ancient lance.) This may be considered one of the finest, but has not been so extensively disseminated as some of the tribe.

There is a white, and other varieties of this *Phlox*.

CLASS II. — FLOWERING IN JUNE AND JULY.

In describing this numerous and very ornamental branch of the family, it will be necessary to cut loose from all botanical distinctions, for the species have undergone such a transformation by hybridizing, that it will puzzle a botanist to trace their parentage.

The two following are no doubt the parents, on one side, of many of the improved sorts, as the habits and style, in many respects, correspond.

Phlox maculata. — The stem is dotted with dark spots, from which circumstance it receives its generic name, *maculata*, (spotted.) It is one of the most common sorts, and found ornamenting almost every garden; frequently known under the name of Flora's bouquet. The flowers are so pretty, one might readily imagine the fair goddess would not be indifferent to their charms. It begins to show its purplish-red flowers the last of May, which are crowded on an oblong spike, and continues long in bloom; if cut down immediately after flowering, a second display may be expected in August or September. Stems rough; two feet high.

Phlox suaveolens. — Sweet-scented. — It has white, sweet-scented flowers, arranged in the same manner as the last; stem without spots. Leaves ovate lanceolate, quite smooth. The height and time of flowering the same as *P. maculata*, and by some considered as only a variety of it. It is one of the most delicate of the species, and, when grown with the last described, makes a fine appearance.

Some of the florist's varieties partake of the character of the two following: —

Phlox carnea. — Flesh-colored. — This delicate species commences flowering the middle of June. After its first display it continues to flower sparingly through the summer and autumn. Leaves ciliated, (eyelash-haired,) lowest setaceous, upper one linear lanceolate, (narrow lace-shape.) Branches from three to five-flowered.

Phlox Listonia. — In honor of Lady Liston. — A beautiful species, with fine red flowers, in June; a foot and a half high. Foliage broader than in most species; radical leaves rhomboidal; upper ones ovate lanceolate.

Some of the most improved early summer varieties are the following: —

Phlox Van Houtteii is a superb variety, with a fine round corolla, each segment being regularly and distinctly striped with purplish-red, on white ground. Height, one and a half foot. In flower the last of June.

P. picta. — White with red eye. One and a half foot high, — last of June and July.

Phlox œil de lynx, — Lynx-eyed, — is a beautiful dwarf variety, one foot high, with white flowers and large deep-red eye; rather delicate in its habits.

Phlox Egyptienne. — This has light lilac flowers shaded with purple, about one and a half foot high, in June and July.

Phlox fleur-de-Marie. — Has fine white flowers, with a dark-red eye; very showy.

Phlox almerine. — Flowers blush, with a small red eye.

Phlox keermisina alba. — Flowers white, with purple eye, arranged in loose pyramidal panicles of great beauty; in July — two feet high.

Phlox meechantea speciosa. — Corolla white, beautifully tinted with rose. Three feet high in July.

CLASS III. — FLOWERING THE LAST OF JULY, AUGUST AND SEPTEMBER.

Most of the Phloxes under this head are tall-growing sorts, from three to four feet high, with their flowers in graceful pyramidal corymbs.

Phlox pyramidalis alba, and *purpurea*, *P. acuminata*, *P. paniculata*, and other old sorts, now discarded, were probably the parents of the new varieties in this class, of which, *Phlox Breckii*, raised by the writer, is considered one of the very best late-flowering sorts cultivated. The flowers are produced in August and September, on stems four to six feet high, on long pyramidal dense spikes. The corolla circular, light-purple, with a white eye. The foliage, graceful, lanceolate acuminate spatulate; the upper leaves very much undulated.

Phlox Charles. — A new white variety, with pink eye; flowers in pyramidal corymbs; one and a half to two feet high in July and August.

Phlox Wilderii. — A fine seedling, with deep-red flowers,

raised by the writer ; corolla round and perfect ; stem branched ; three feet high in August.

Phlox Mary Ann. — A superb new variety, with striped flowers ; corolla five-shape ; the centre part of each segment is of a clear pale-purple, while the margins are pure white ; in dense flattish corymbs ; in July and August ; one and a half foot high.

Phlox paniculata alba. — A fine variety, with pure white flowers, arranged in pyramidal panicles ; three feet high in August.

Phlox nymphaea alba. — A fine variety, with white flowers, tinted with purple ; tube of the corolla purple ; flowers arranged in dense spherical corymbs : three feet high ; in July and August.

Phlox cordata grandiflora. — Corolla large, fine round shape, purplish-pink, with white centre, in large flattish, dense, terminal panicles ; four to five feet high ; in August.

Phlox decussata alba. — A fine white variety, with perfect flowers in regular compact pyramidal corymbs ; three feet high ; in August.

Phlox Lawrencii is a variety with white flowers ; a seedling raised by W. E. Carter, late of the Botanic Garden, Cambridge ; three to four feet high ; in August.

Mr. Carter has raised a number of fine seedlings, flowering in August, viz. : — *Phlox Frelinghuysen*, with variegated flowers ; and *Phlox Henry Clay*, with white flowers, finely penciled with purple ; each about two to three feet high.

Phlox rosea superba is a variety with brilliant rose-colored flowers.

Phlox undulata. — The margin of the leaves slightly undulated ; lance oblong ; stem erect, smooth, three feet high ; the latest species flowers in September, and retains its beauty long after the commencement of frosts, and lingers to the confines of winter ; red ; many of the flowers turn white, which gives its paniced corymbs or heads a variegated appearance.

To these might be added numerous other fine varieties, as they are without number.

RAISING PHLOXES FROM SEED.

Some fine seedlings have appeared in my own garden within the two last years, which have attracted considerable attention at the Horticultural Rooms, on account of the largeness and perfection of the flowers, the density of the spikes or corymbs, and the colors. The last season, the first premium for the best ten varieties was awarded to the writer; six of these were his own seedlings, which competed with a number of stands, mostly of foreign origin, and that, too, of improved sorts.

Out of a large number, I have selected and numbered twenty varieties, which I thought worthy of perpetuating, for their superiority for breeders. It is a fact, that seedlings are sure to produce an abundance of seeds, while those varieties that have long been propagated by cuttings or divisions of the root, soon lose that power. It has proved, in my experience, that there is an improvement in every generation of well selected seedlings. I have been accustomed to collect all the seedling phloxes raised by my floral friends, and plant them in beds by themselves: thus, I had three or four from my friend, S. Walker, Esq., President of the Horticultural Society, some of Mr. Richardson, of Dorchester, others from my old acquaintance, W. E. Carter, late of the Botanic Garden, and a large number of my own. From these the seed was scattered promiscuously, and the young plants were taken up and planted by themselves, and from a great number of young seedlings my selections were made. Among these are some white, some fine red, two or three variegated; one mottled, with a red eye; and another distinctly and regularly striped with a pale-purple on white ground. Their parents being of the later sorts, these, also, correspond in the time of flowering with them, being in perfection about the first of August. I am looking for great improvements in the next brood of seedlings from these new sorts, and think I shall not be disappointed.

POLEMONIUM.

Jacob's Ladder.

Polemonium cæruleum.—Blue-flowered.—This is one of the old standard border flowers, and is known by the common name of Jacob's Ladder, from its beautiful pinnately-cleft leaves, (leaflets arranged on each side of a common petiole or leaf-stem;) its lively blue flowers, nodding, on the ends of the branches. There is another variety with white flowers. Each variety is worthy of a place in the flower department, being perfectly hardy and of the most easy cultivation; flowers in June; two feet high.



POTENTILLA.

Potentilla, in allusion to its supposed potential virtue in medicine.

This is a numerous genus, consisting of strawberry-like looking plants, with mostly yellow flowers.

Potentilla atrosanguinea.—Dark blood-colored *Potentilla*.—This is one of the finest species, with beautiful foliage, and blood-colored flowers, from Nepal, one and a half foot high; in flower from May to September. Propagated from divisions of the root, and from seed.

Potentilla formosa.—Synon. *Nepalensis*.—This is another beautiful species from Nepal, with fine rose-colored flowers, which are produced the greater part of the season.

Potentilla splendens has yellow flowers, of not much beauty, but the leaves are elegant, being silvered over with a silky down, and interruptedly pinnate. Flowers dichotomous, in corymbs; from Nepal.

Potentilla grandiflora has fine large yellow flowers—a native of Siberia.

Potentilla russelliana is a splendid hybrid with scarlet flowers.

P. Hopwoodiana, with rose and scarlet flowers, is also beautiful. Most of the species, which are numerous, are pretty, but those named are the finest; all stand the winter well; they succeed best in light soil.

PRIMULA.

Primrose.

This genus consists of beautiful dwarf Alpine plants, of many species, which sport into elegant varieties, under the cultivation of the florist. They are valuable on account of their early appearance in the spring; some of them succeeding the Snowdrop, others keeping company with the vernal Phloxes and other early flowers.

The *Primula auricula* is a florist flower of great beauty, but has received but little attention in this country; probably on account of the severity of our winter and spring months, or the great heat of summer, which is more destructive to the *auricula* than the cold. The extremes of heat and cold render its cultivation difficult. The flower-stalk springs from radical leaves, six or eight inches high, bearing a truss of from five to seven flowers, which are of various rich colors, according to the variety. These flowers are called pips, which should be round, with a light-colored eye; the ground color, when very dark blue, purple, or brown, edged with green, contrast finely with the eye, and are considered richer than those varieties where the colors are lighter.

Primula polyanthus. — This is more hardy than the *auricula*, and succeeds well with little care, provided it can have a cool and sheltered spot, a rich and rather moist soil. They are in flower all the month of May, and some of the varieties by the middle of April. The flowers are produced on stems, eight to twelve inches high, in trusses of eight or ten flowers, or pips, and are of various rich colors. Brown, with yellow eye, is very common, with a delicate edging of yellow; also

various combinations of crimson, yellow, sulphur, and dark-brown, either plain or shaded. It is easily propagated by dividing the roots after blooming.

Primula veris, — Cowslip, — is a native of Great Britain. The flowers are produced in trusses, but are not so elegant as those of the *polyanthus*, but look pretty in the border. The flowers generally are of a pale-yellow, but there is a variety with red flowers; they are propagated the same as the *polyanthus*. There are many other pretty species and varieties, some with double flowers. All may be introduced into the garden, in cool, shady locations.

PULMONARIA.

Lungwort.

Pulmonaria derives its name, some say, from the speckled appearance of the leaves, resembling diseased lungs; but others think that its name has arisen from the plant having been used with success in pulmonary complaints; whence, also, perhaps, the English name, Lungwort.

Pulmonaria Virginica, — or Virginian Lungwort, — occurs pretty commonly in the shady woods of Pennsylvania, and most other of the southern and western States. Its flowers, which appear in May, look like so many small, bright-blue, pendulous funnels, internally open at the orifice, after the manner of the genus, each springing out of a prismatic, pentagonal, five-toothed calyx.

After flowering, the plant to appearance dies, as it is not seen until the following spring; propagated by divisions of the root. This is one of the most elegant ornaments of the flower-garden in May.

P. officinalis, — Medicinal Lungwort, — is a pretty dwarf species, in bloom from April to June, with clusters of red and bluish-purple flowers, with spotted leaves; six inches high.

P. Sibirica and *maritima* are elegant perennials, greatly

resembling each other, and considered by some, as most probably, only varieties. They are among the most elegant ornaments of the flower-garden, in dry springs; but they require some care in keeping, unless in a soil almost entirely of sand.

PYRETHRUM.

Feverfew.

Pyrethrum parthenium plena, — or Double Feverfew, — is an ornamental plant, with pure white flowers, from June to September; two feet high. It is frequently kept in green-houses, but stands out all winter with a little protection. It is raised from cuttings, or by dividing the roots. When raised from seed, most of the plants will be worthless, not much better than weeds, as there is no beauty in the single flowers.

RANUNCULUS.

Buttercup.

There are a number of varieties of Buttercups, which are found double, and are frequently introduced into the flower-garden.

Ranunculus repens flore plena is a double variety; the roots are creeping, and therefore the plant is rather troublesome. The flowers are pretty; a glossy yellow; in bloom a number of months.

R. acris flore plena is a species and variety, with upright stems; two feet high, with bright-yellow double flowers, in June and July.

R. aconitifolius flore plena. — This beautiful plant has fine double white flowers, in June; one foot high; for some reason it is not much cultivated in this country. It goes by the name of "Fair Maids of France."

RUDBECKIA.

This is a genus of North American plants, some of them valuable for the border; all are hardy, and easily propagated by dividing the roots.

Rudbeckia fulgida has large, brilliant yellow flowers, with a dark centre, or disk; about two feet high; continuing in bloom all the months of July and August.

R. purpurea. — Purple Rudbeckia. — This plant grows from three to four feet high. The disk of the flower is very rich, appearing, in the sun, of a golden crimson; the rays are purple, and, in some of the varieties, quite long.

R. nudiflora. — This is a beautiful species; it grows three feet high; the stems branched, producing a long succession of flowers, with long, conical, dark disks, and very long, wavy rays, of a pure, clear yellow.

There are many other species, but mostly coarse-growing plants.



SABBATIA.

This is a pretty genus of North American plants, not much cultivated, but, if properly managed, would no doubt prove a great acquisition.

Sabbatia chloiroides is found growing in Plymouth county, on the margin of ponds; it has large, showy pink flowers, in July. There is also a variety with white flowers; it is a biennial, and must therefore be propagated from the seed, which should be sown in moist ground, as soon as ripe, or early in the spring.



SARRACENIA.

Side-Saddle Flower.

This very curious plant is found growing in our wet, boggy meadows and swamps. It will succeed in any wet corner of the

garden, (if there is any such,) and it is well worthy a place, on account of the singularity of the leaves, which are tubular and hold water. The stigma of the flower resembles a woman's pillion of olden time ; hence the common name.

SANGUINARIA.

Bloodroot.

From *sanguis*, blood. All the parts, on being wounded, discharge a blood-colored fluid.

Sanguinaria canadensis. — This is a singular and very delicate looking, indigenous plant, producing shining white flowers, in April. It has a tuberous, fleshy root, and easily transferred to the garden, where it shows off to advantage with the Crocus and other flowers.

SAXIFRAGA.

Saxifrage.

An elegant and extensive genus of Alpine plants, which have long been favorites in English gardens ; most of them are dwarf plants, and suitable for rock-work ; but many species are difficult to cultivate. There is a native species in flower in May ; in great abundance about rocks and barren places, with greenish-white flowers ; very fragrant ; six or eight inches high.

Saxifraga crassifolia has broad, thick leaves, rising from the crown of the plant, from which are thrown up stems one foot high, with panicles of pink flowers, in May and June.

SEDUM.

Stone Crop.

Sedum, from *sedere*. — These plants, growing upon the bare rock, look as if sitting upon it. The species are low succulent, some of them pretty, others curious; but none of them remarkable in any way. Some look pretty on rock-work, and others are frequently used for edgings to walks. The species are very numerous.

SOLIDAGO.

Golden Rod.

This is an extensive family of native plants, some of them showy, with dense spikes, or panicles of yellow flowers, in August and September. A few of them look pretty in the garden, and help to make up a variety.

SPIRÆA.

This genus affords numerous ornamental shrubs and herbaceous plants, some of them very desirable. Among the herbaceous are the following, which are all very hardy, and easily propagated by dividing the roots.

Spiræa filipendula. — Dropwort. — A very elegant species, with tuberous roots like the Peony. Flowers white; the buds shaded with pink; in corymbs; two feet high; from June to August. The foliage is beautiful.

S. filipendula plena. — Double Dropwort. — A very desirable plant, with clusters of fine double white flowers, from June to October. It is more dwarfish than the last; not more than one foot high. The time to divide the tubers of these two varieties is in August; they will then flower strong, the next year.

S. ulmaria pleno. — Double Meadow Sweet. — This is a handsome border plant, producing proliferous corymbs of double white flowers, on erect stems two feet high, in June and July. A variety of this has variegated leaves.

S. lobata. — Lobe-leaved Spiræa. — A beautiful species, with deep pink or red flowers, in proliferous corymbs, in June and July; stems two feet high.

S. palmata. — This is a magnificent species from the west, growing to the height of five or six feet, with immense clusters of red flowers, in July; leaves palmate; flowers in large proliferous corymbs.

S. aruncus. — Goat's-beard. — Three or four feet high, with white panicked spikes, in June and July; leaves supra-decompound.

S. Japonica. — Japan Spiræa. — A species more delicate than the last; the flowers arranged in the same way; of a purer white; two feet high, in July and August.

These are some of the principal herbaceous *Spiræas*. All succeed best in a strong, moist soil, and endure the hardest winter without protection. For many beautiful shrubby species, see SHRUBS.

STATICE.

Sea Lavender.

This is a very ornamental genus. The species are not common, and require a little care in cultivation. *Statice speciosa* and *tartarica* are among the prettiest of hardy plants.

TRADESCANTIA.

Spiderwort.

All the species are of the easiest culture, but not many of them can be called beautiful.

Tradescantia Virginica is a valuable border flower, on account of its continued succession of fine blue flowers, which it produces every morning from May to September. It has long, grass-like foliage; flowers on stems, one and a half foot high, in clusters; umbel-like. There is a variety with white, and another with double reddish purple flowers.

TROLLIUS.

Globe Flower.

Trollius is derived from *trol*, or *trollen*, an old German word signifying something round, in allusion to the globular form of the flowers.

T. Europæus flowers in June and July. It has large lemon-yellow globular blossoms, on stems two feet high.

T. Asiaticus has dark orange flowers; one foot high; in June and July.

T. Americus is a dwarf indigenous species, with yellow flowers, in May; all flourish best in rich, moist soil. The two first are desirable border flowers.

VALERIANA.

Valerian.

Valeriana phu,—Garden Valerian,—is a tall-growing plant, three or four feet high, producing an abundance of small, white, fragrant flowers, in May and June, in large corymbs; desirable on account of its pleasant odor.

V. pyrenaicum,—Heart-leaved,—is sometimes seen in flower-gardens; three feet high, with small pink flowers in corymbs, in May and June. The species are all ornamental border plants, of easy culture, in common earth, preferring moist and shady places.

VERONICA.

Speedwell.

An extensive family, most of the species being ornamental plants, the taller growing sorts suitable for the borders, and those of a more dwarfish habit for the rockery. The flowers are produced in spire-like spikes, or racemes, and are generally blue; but some few species are white, and others pink.

V. Virginicum is a tall, strong-growing species, four or five feet high, with white flowers in clustered spikes; in July and August; suitable for the shrubbery.

V. Sibirica has blue flowers, in spikes, in July and August; two feet high.

V. speciosa is a dwarf species, with brilliant blue flowers, in spikes; June and July.

V. azurea is two or three feet high, with fine sky-blue flowers.

V. spicata is about one foot high, with fine blue flowers.

There are as many as fifty species, all easily cultivated in almost any soil; propagated by dividing the roots.

VINCA.*Periwinkle.*

Some of the genus are hardy evergreen trailing plants, valuable for their early and long-continued flowering, flourishing under the shade and drip of trees. The most common hardy species are *Vinca major* and *V. minor*, with a number of varieties; flowers generally blue. It is best to give a little protection in winter.

VIOLA.

Violet.

“Violets, sweet tenants of the shade,
 In purple's richest pride arrayed,
 Your errand here fulfil;
 Go bid the artist's simple stain
 Your lustre imitate in vain,
 And match your Maker's skill.”

This is an extensive genus of plants, of dwarf habits, suitable for the border or rock-work. There are many indigenous species which flourish well in the garden, and will repay the trouble of collecting them from the woods, meadows, and pastures.

Viola odorata,—or the Sweet-scented Violet,—should not be wanting in any collection of plants, on account of its fragrance and early appearance. A single flower will perfume a large room. The flowers appear in April, and continue through May. There are the single white and single blue, and the double blue and white varieties; the double sorts are the most desirable; they succeed best in a shady, sheltered place, and are rapidly multiplied by divisions of the plant.

Viola tricolor.—Pansy; Lady's Delight.—The Heart's Ease, or Pansy, is a general favorite,—an old acquaintance with every one who has had anything to do with a flower-garden. It begins to open its modest but lively flowers as soon as the snow clears off in the spring, and continues to enliven the garden till the snow comes again. The flowers are in the greatest perfection in May and June. The burning sun of summer is unfavorable for their greatest beauty; but in autumn they are fine again. The Pansy is properly a biennial, but can be perpetuated by cuttings or divisions of the root.

Viola grandiflora is an improvement of *V. tricolor*, or on a larger scale, and this has now become a florist's flower. The following directions for its cultivation are from the Gardener's Chronicle:—

"I know of no plant so easy to cultivate, and at the same time so difficult to keep from year to year, as the Pansy. It may be raised from seeds and bloomed in a few months, and an endless variety of color, marking, and texture, may thus be produced. Choice kinds, either selected from the seed-beds or procured from the florists, are seldom bloomed more than once, unless by some expert amateur, or in some favorable locality. In winter, the Pansy is extremely liable to damp off, although protected in frames; and we all know, to our mortification, the ill effect of a summer's sun on it. It is scarcely possible to point to another tribe of plants so peculiarly the amateur's as this, or one that puzzles him to cultivate more. The following hints may assist him.

"Seeds sown in August, in the open border, will come up readily in a few weeks. The seeds should be slightly covered with fine soil, if covered at all, as half the seeds sown rot in the ground, from being covered too deeply. As soon as they expand the second set of leaves, they should be planted out into beds, in lines, from eight to ten inches asunder. If the seed has been carefully saved from good kinds, an interesting display will be the result; and the raising of new varieties is a labor of peculiar interest. As spring advances, the plants so treated will commence flowering. The next point will be to select those which possess good qualities, with a view to perpetuate them. There are many singular and pleasing varieties that do not come within the arbitrary rules by which florist's flowers are judged, which nevertheless are worth retaining for common border decoration; but if a rigid adherence to these rules is determined upon, then the flowers must be as nearly round as possible, expanding their petals flatly; crumpled petals, with ragged edges, are points that will justify their being cast aside. Round flowers, with flat petals, must also have firmness of texture to recommend them; a flimsy flower in the fancy, although possessing other properties, is universally discarded. The eye should be concentrated, and not starry; the colors soft and clearly defined. These instructions

will enable the amateur to select the right kinds from his seedling beds. As soon as he has determined upon those worth retaining, propagation should be commenced, and this is a simple matter. Cuttings taken off at the second and third joints will root readily, placed behind a hedge, or wall, on the north side, without any protection whatever. Insert them two inches apart, and one inch deep, in soil of a light sandy texture, and they will root in a few weeks. Take care that all damp leaves are removed as soon as they appear.

“To produce a bed of choice Pansies, select a north aspect, with a cool bottom. Soil of medium texture, and moderately enriched, should be preferred for the production of large flowers. Keep the soil frequently stirred around them, and be careful that the border is free from wireworm. If the plants are put out in September, they will be established before winter; and I have frequently found that plants so treated, get through the winter quite as well as those coddled in frames. As their propagation is easy, depend exclusively upon young plants for the following season's bloom. Seeds should only be saved from beds of selected flowers possessing the best qualities; for it is only by following this up, that improved kinds to any extent can be obtained; and, as seed is readily produced, it is not worth while saving that from doubtful or indifferent sorts.”

YUCCA.

Adam's Needle.

This is an ornamental genus of plants, mostly natives of the southern States and South America. Some of them succeed well in the open ground in the northern States, and form a pleasing contrast with other plants, on account of the peculiarity of their foliage, which resembles the palm, or aloe. The leaves are sharp-pointed, stiff, and rigid; and, in some of the species, the edges of the leaf are margined with long threads. *Yucca filimentosa*, or Adam's Thread, is one of the most

hardy sorts. It is called Thready Yucca, from the long threads that hang from the leaves. The flower-stem grows to the height of five or six feet, and nearly the whole of it is covered with large, bell-shaped, white flowers, sitting close; all the species are rather shy flowerers; in August and September.

Y. gloriosa and *superba* are two splendid species, producing an immense number of their fine bell-flowers on their tall stems. The foliage of all the species is evergreen, and they closely resemble each other. The severity of our winters often blackens the foliage; to prevent this, the leaves should be gathered up and tied together, and covered with straw. Propagated from suckers.

DESCRIPTIVE LIST OF ANNUAL FLOWERS, WITH DIRECTIONS FOR THEIR CULTIVATION.

“The earth, all light and loveliness, in summer's golden hours,
Smiles in her bridal vesture clad, and crowned with festal flowers,
So radiantly beautiful, so like to heaven above,
We scarce can deem more fair that world of perfect bliss and love.”

AGERATUM.

Ageratum Mexicanum. — Mexican Ageratum. — A half-hardy annual, with light-blue compound flowers, in July and August; about one and a half foot high; very pretty, but not remarkable for beauty.

ADONIS.

Adonis autumnalis is a hardy annual; the seeds sown in the spring will flower in September. If sown in September, they will flower the June following. The foliage is handsome; the flowers blood-red; one to two feet high.

ALYSSUM.

Alyssum maritimum. — Sweet Alyssum. — This is a desirable hardy annual, flowering from June to November; one foot high; flowers white, in long racemes, which continually extend themselves through the season, producing flowers until killed by hard frosts. This produces a fine effect when planted in masses. The plants should not be planted nearer than one foot from each other.

ARGEMONE.

Argemone grandiflora is the most showy of the genus; a native of Mexico. Its large flowers, with delicate white petals and numerous yellow stamens, make a splendid appearance, and we think much superior to

A. ochroleuca, with pale-yellow flowers. The leaves, capsules, and the whole plant, are armed with formidable spines, and having once had the hands or any part of the body come in contact with them, the plant will be forever after, viewed with feelings far from those of pleasure.

A. barclayana is equal to it, in its powers of annoyance, but its more showy, brilliant yellow flowers make amends, in some measure, for its repulsive appearance.

The roots of the *Argemone*, if taken up and kept in pots, in a frame or cellar, will flower much stronger the next year than seedlings.



ALONSOA.

Beautiful green-house plants, but flower finely in the open ground as annuals.

Alonsoa incisifolia. — Nettle-leaved Alonsoa. — The flowers of all the species are a rich scarlet, which are produced all the season. This species has nettle-shaped but delicate leaves; one to two feet high. The seed may be sown the last of May, in the open ground, or in the hot-bed, in April.

A. grandiflora has larger flowers, but very much like the last.



AMARANTHUS.

Amaranthus tricolor. — This is a tender annual, — an old favorite of the flower-garden, — the chief beauty of which consists in its variegated leaves. Miller, in ancient times, says, "There is not a handsomer plant than this, in its full lustre."

Gerarde thus speaks of it : —

“It farre exceedeth my skill to describe the beauty and excellencie of this rare plant, called *Floramor* ; and I thinke the pensil of the most curious painter will be at a stay, when he shall come to set it downe in his lively colours. But to colour it after my best manner, this I say, *Floramor* hath a thicke, knobby root, whereon do grow many threddie strings ; from which ariseth a thicke stalke, but tender and soft, which beginneth to divide itself into sundry branches at the ground, and so vpward, whereupon doth grow many leaves, wherein does consist his beauty : for in few words, euerie leafe resembleth in colour the most faire and beautifull feather of a Parot, especially those feathers that are mixed with most sundry colours, as a stripe of red, and a line of yellow, a dash of white, and a rib of green colour, which I cannot with words set forth, such are the sundry mixture of colours that Nature hath bestowed, in her greatest jolitie, vpon this floure. The floure doth grow betweene the footstalks of those leaves and the body of the stalk or trunk, base, and of no moment in respect of the leaves, being as it were little chaffie husks of an ouerworne tawny colour ; the seed is black, and shining like burnished horne.”

A. hypochondriacus. — Prince's Feather. — This is a hardy annual, well known, four or five feet high, with numerous heads of purplish-crimson flowers, suitable for the shrubbery.

A. superbus is an improved variety of the last ; flowers dark red ; three to four feet high ; from June to September.

A. caudatus. — Love-lies-bleeding. — This is also a well-known hardy annual, from three to four feet high, with blood-red flowers, which hang in pendant spikes, and, at a little distance, look like streams of blood ; in July and August. It is sometimes called, in France, “*Discipline des religieuses*,” — the Nun's Whipping-rope.

There is another variety, with straw-colored flowers, but it is too mean-looking for the flower-garden.

AMMOBIUM.

Ammobium alatum. — Winged Ammobium. — This is a very pretty half-hardy annual, with composite white flowers, or with white, dry, involuchral scales, like some of the everlastings. The flowers, when gathered before they fully mature, retain their shape and brightness, and are fit companions for the Globe Amaranths, Immortal Flower, &c., for winter ornaments. It grows two feet high; in flower from June to October. The stems have a curious winged attachment their whole length.

ANAGALLIS.

Anagallis Indica. — Indian Anagallis. — A dwarf trailing plant, with blue flowers, in July and August.

ASTER CHINENIS.

NOW CALLISTEMME HORTENSIS.

China Aster.

The Double China Aster, now known as the German Aster, has, within a few years, been very much improved and perfected by the German florists, and others, so that it is hardly to be recognized as the same flower as the old China Aster of the flower-garden. The varieties are now very numerous, and possess exceeding beauty, some of them being almost as large as a small Dahlia, and much more graceful. The full-quilled varieties are the most highly esteemed, having a hemispherical shape, either a pure white, clear blue, purple, rose, or deep red; or beautifully mottled, striped, or edged, with those colors, or having a red or blue centre. They are also of various habits; some dwarf, others taller, some spreading, and others growing erect and very much branched. Seeds, sown in the fall of the

year, produce early flowers ; but they come too early in bloom, and are not so perfect as those coming into flower about the first of September.

My practice is to sow the seeds the last of May, in patches, and transplant to a bed well prepared the last of June. The plants should stand a foot apart ; but there being some uncertainty as to the character of the flower, although the seed may have been the very best, I put out two or three plants near each other, and when they begin to flower, cut out those that are inferior, and leave those only that are perfect. In this way alone can the character of the flower be kept up. Otherwise, they will soon degenerate into inferior flowers.



AVENA.

Avena sternalis, — or Animated Oat, — is sometimes grown as an object of curiosity, on account of its singular hygrometrical properties. After the seeds have fallen off, their strong beard is so sensible of alternation in the atmosphere as to keep them in apparently spontaneous motion, when they resemble some grotesque insect crawling upon the ground.



BARTONIA.

Bartonia aurea. — Golden-flowered. — A very pretty flowering annual, the flower-stem rising a foot high. The plant produces a profusion of showy flowers, of a fine golden-yellow color. Each blossom is about two inches and a half across. The plant is a native of California. It delights in a sheltered, sunny situation, and it is to be grown in a rich soil, where it will bloom profusely. The plant requires to be raised as a frame annual, and to be planted in the border in May.

BROWALLIA.

Browallia elata. — Blue Amethyst. — A tender annual from Peru, named by Linnæus in honor of John Browallius. It grows one and a half foot high, and bears an abundance of small bright-blue flowers, from July to September. There is a variety with white flowers.

To have it in perfection, it should be sown in hot-beds, and transplanted into the open ground the first of June. The plants are very minute when they first make their appearance, and, unless protected from the sun, are liable to be destroyed. In the open ground, it should be sown about the 10th of May.

BRIZA.*Quaking Grass.*

Briza, from a Greek word, to balance, the spikelets being continually in a state of suspension, or balance, in the air. It is a curious genus.

B. maxima is sometimes cultivated as a border flower; the spikes of the grass are elegant, when dried, and help to make up a bouquet of immortal flowers.

BRACHYCOME.

Brachycome iberidifolia. — Swan Daisy. — A beautiful hardy annual, of dwarf habit, six or eight inches high; in bloom from July to September. Flowers of various shades of white, pink, or blue, suitable to be grown in masses or beds; foliage delicate.

CACCALIA.

Caccalia coccinea. — Scarlet Tassel-flower. — A neat annual, of easy culture, one and a half foot high, with scarlet tassel-shaped flowers, from July to September. Sow it the first of May.

CALENDULA.

Calendula. — So named because it may be found in flower during the calends of each month, or, which is the same thing, during every month of the year. This cannot be the case in our climate.

Calendula officinalis. — Pot Marigold. — A hardy annual, common to the gardens time out of mind, and formerly much used in soups and broths. Flowers deep orange, and continue all the season. Some of the double varieties are very handsome.

CALANDRINIA.

Calandrinia grandiflora. — Great-flowering. — This is a half-hardy annual; grows two feet high; blooms from June to October. It is a fine plant for growing in masses. When the fine, rosy lilac flowers of this very beautiful plant are fully expanded, being produced in vast profusion, and continuing for so long time in bloom, they make a pleasing appearance, and never fail to give ample satisfaction. To have it in its greatest perfection, the seed should be planted in pots, and placed in a hot-bed early in the spring. In June the plants should be turned into the ground. The soil should be a rich sandy loam.

Calandrinia discolor is in habit very much like the other; the foliage is purple on the under side; it requires the same treatment.

CALAMPELIS.

FORMERLY ECREMOCARPUS.

Calampelis scaber. — Rough-podded Calampelis. — This is a beautiful climber, a perennial, but flowers the first year; not sufficiently hardy to stand our winters. Its flowers are produced in panicles or racemes, and are of a bright orange color; it flowers profusely the latter part of summer. It

will be necessary to plant the seeds in a hot-bed early in the spring, and when the plants have five or six leaves they should be transplanted into pots, and turned into the ground in June. The seeds are difficult to vegetate.

CALLIOPSIS.

Calliopsis tinctoria. — Elegant Coreopsis. — This is a well-known hardy annual, formerly called *Coreopsis tinctoria*. The flowers are large and rich, having a dark crimson-brown centre with yellow rays. The only difficulty with the plant is that it makes itself too common, sowing itself over gardens, and making its appearance where it is not wanted. In flower June and July.

Calliopsis tinctoria — var. *atropurpurea*. — Dyeing Calliopsis, dark-flowered variety. — This variety of the well known and much admired *Coreopsis tinctoria*, is very superior to that species. The flowers are about the size of *C. tinctoria*; the centre is yellow, surrounded by a circle of dark purple, beyond which, to the extremity of the petals, is of a fine red scarlet color; some of the flowers are destitute of the yellow centre. It is a splendid flowering annual, and deserves a place in every flower-garden; we have grown it in masses, and it produces a fine show.

CARDIOSPERMUM.

Cardiospermum halicacabum. — Balloon Vine, or Love in a Puff. — A half-hardy annual from the West Indies; a creeper. The seed should be sown between the first and tenth of May, and the plant supported with brush four to six feet high.

The plant is remarkable for its inflated membranous capsule, from which it is sometimes called Balloon Vine, or Love in a Puff. The flowers are white and green, without any claim to beauty.

CAMPANULA.

Campanula speculum. — Venus' Looking-glass. — An annual border flower, of some beauty, very hardy ; having it once in the ground, it will sow itself ; the young plants may be taken up in the spring and planted where to remain, and should be set one foot from each other ; or sow the seed very early in the spring. One foot high, very branching, producing a long succession of blue flowers, which close at the approach of rain, and at evening. Speculum, because the form of the corolla resembles a little round, elegant mirror (speculum) ; whence it is called Venus' Looking-glass.

Campanula Loreyi. — Lorey's Bell-flower. — A hardy annual, of easy culture, thriving in almost any kind of soil, sowing itself, so that an abundance of plants are found the following year. It is dwarfish in its habits, and highly ornamental. It has large expanded blossoms, of a deep blue or white, which continue to be produced in succession through the summer and autumn months.



CANNA.

Indian Shot.

The genus are mostly tropical plants, with elegant foliage from four to eight feet high.

Canna Indica, — or Indian Shot Plant. — This is the most common species, and succeeds well as an annual if the plants are started in a hot-bed. If the seeds are planted in pots, and plunged in the bed when it has its greatest heat, the plants will soon appear ; and, if turned into the ground in June, will make large plants. In the green-house it is a perennial.

This is desirable, not only for the beauty of its spikes of scarlet flowers, but also for its elegant foliage, and particularly to the botanist, as it belongs to the small class *Monandria*, (one stamen,) which in this region furnishes but few examples.

There are many species in large collections, all handsome. It becomes a large plant before autumn, five or six feet high, with deep-green leaves, three feet long, and six inches in width; perfecting seed, which is round, black, and hard, having the appearance of large shot. It belongs to the natural order, *Cannæ*, mostly tropical plants.

CELOSIA.

Cockscomb.

Celosia cristata is common in most gardens. The following account is inserted, to give some idea of what may be done by artificial means. "Mr. Knight, in October, 1820, sent to the London Horticultural Society a Cockscomb, the flower of which measured eighteen inches in width and seven in height, from the top of the stalk; it was thick and full, and of a most intense purple-red. To produce this, the great object was to retard the protrusion of the flower-stalk, that it might become of great strength. The compost employed was of the most nutritive and stimulating kind, consisting of one part of unfermented horse-dung, fresh from the stable, and without litter, one part of burnt turf, one part of decayed leaves, and two parts of green turf, the latter being in lumps of about an inch in diameter, in order to keep the mass so hollow that the water might escape and the air enter. The seeds were sown in the spring, rather late, and the plants put first into pots of four inches diameter, and then transplanted to others a foot in diameter; the object being not to compress the roots, as that has a tendency to accelerate the flowering of all vegetables. The plants were placed within a few inches of the glass, in a heat of from 70° to 100°; they were watered with pigeon-dung water, and due attention paid to remove the side branches when very young, so as to produce one strong head or flower."

The color of the scarlet varieties is highly brilliant. None of the other colors are so rich. The yellows are generally rather dull — some of them dirty-looking. The scarlets and crimsons

are the only colors that look well. There are the tall and dwarf varieties, and some that are somewhat branching; but these last should be rejected. To produce fine combs the soil cannot be made too rich; the plants must also be forwarded in a hot-bed. Very showy plants can be raised by sowing the seed in the open ground in May, but they cannot be raised in perfection.

CENTAUREA.

Centaurea Americana. — American Centaurea. — A handsome hardy annual, discovered by Nuttall, on the alluvial soil of the Arkansas and Red rivers, two or three feet high, with large purplish-pink flowers in August. It is of easy culture, and should be sown early in April.

Centaurea cyanus, — Blue Bottle, — is a common weed, in cornfields, on gravelly soils, throughout Europe, and also a popular border annual. The flower, originally blue, in gardens present varieties with white, pink, purple and parti-colored rays. The time of sowing early in April.

Centaurea moschata purpurea — var. *alba*. — Purple Sweet Sultan, White do. — Handsome border annuals, of easy culture, natives of Persia, two feet high, with fragrant flowers from July to September. Sow in April.

Centaurea suaveolens. — Yellow Sweet Sultan. — A handsome annual from the Levant, one and a half foot high, with lively, rich yellow flowers from July to September. Sow first of May.

Centaurea benedicta. — Blessed Thistle. — A hardy annual from Spain, two feet high, with yellow flowers from July to September. Sow last of April.

CHRISEIS.

California Poppy.

Chriseis Californica. — Formerly *Eschsholtzia*. — Grows two feet high; blooms from June to September. Flowers brilliant

shining yellow. Scarcely any plant produces a greater degree of splendor than this; when the full sun is upon it, it makes a complete blaze of color. It is a most suitable plant for producing a distant effect. When it is planted out in a bed, it requires a considerable number of sticks for support, or the weak branches will be liable to lie close to the ground, and then the bloom is not so fine. If planted in single patches, they should have several sticks placed round, and a string fastened, so as to keep the flower-stalks tolerably erect; by this attention a neat and handsome effect will be given. I adopt the use of cross-strings, as well as a circular one, by which means I have the shoots *regularly* disposed.

Chriseis crocea. — Saffron-colored Californian Poppy. — The principal difference between this and the variety now well known here, is in the color — this being a dark, bright saffron-color; the botanical difference is, that in this the point of the calyx is longer, and the apex or end of the peduncle (flower-stem) is more expanded. It is, like the other, a hardy annual or biennial.

CHRYSANTHEMUM.

Chrysanthemum coronaria. — Garden Chrysanthemum. — Handsome hardy annuals, one variety with white, and another with yellow flowers; two feet or more high; in bloom from July to October. Sow the seed in April. The double varieties alone are worth cultivation. The fine double varieties are propagated by cutting.

Chrysanthemum cavinatum, or tricolor. — Tricolored Chrysanthemum. — A hardy annual from Barbary, one and a half or two feet high, in flower from July to October. Disk of the flower purplish-brown, inner circle of the rays yellow, margined with white; very pretty.

COIX.

Coix lachryma. — Job's Tear. — A kind of tropical grass from the East Indies. It is called Job's Tear on account of the

appearance of its shiny, pearly fruit, which, when suspended on its slender pedicels, resembles in no inconsiderable degree a falling tear. The plant is about two or three feet high, a tender annual, and has some resemblance to Indian corn in the stalks and leaves. Cultivated for its singular fruit. The flowers are destitute of beauty.

CLARKIA.

Clarkia pulchella. — Beautiful Clarkia. — This is a hardy annual, of great beauty, discovered by Captain Clark, in his expedition, with Captain Lewis, to the Columbia River. It is a native of the Rocky Mountains.

Plants from seed sown in August or September. flower much stronger than when sown in the spring, but succeed very well when planted in April or early in May. The soil should not be over rich or moist, as they frequently die very suddenly in such a location. In a good, sound loam, rather light, it flourishes best. The flowers are light-purple; plants one foot high; in bloom from June to September.

There is a variety with pure white flowers. All the varieties and species, when grown in large masses, are very ornamental.

C. elegans, — Elegant Clarkia, — and its varieties, are also hardy annuals, of great beauty, requiring the same treatment as *C. pulchella*; from one foot to eighteen inches high; in flower at the same time.

C. rhomboidea. — Entire-petalled. — Synonym. *C. gauroides*. — It is an annual, growing about two feet high. The flowers are an inch across, purple and white near the bottom of each petal, spotted with purple. It much more resembles *C. elegans* than *C. pulchella*. Mr. Douglas has left some remarks on another species in California, closely allied to *C. rhomboidea*, viz., *C. unguiculata*.

CLINTONIA.

Clintonia elegans. — Elegant Clintonia. — A beautiful tender annual, with delicate foliage, and rich blue flowers in great profusion; six inches high; in July and August.

C. pulchella. — Pretty Clintonia. — A native of California. It is a pretty flowering tender annual, of very humble growth, only rising a few inches high. The flowers are rather larger than *C. elegans*, blue, with a broad white spot at the centre, stained with a rich yellow. The flower is about half an inch across. Its delicacy of growth will prevent its spreading rapidly through the country.

The Clintonias, when grown in pots in the green-house, are very beautiful.

CLEOME.

This is an elegant tribe of plants, and very curious in their structure. The petals range themselves on the upper side, and the stamens and pistil are protruded a considerable length on slender filaments, forming beautiful airy groups.

Cleome grandiflora is one of the most showy of the genus. It is easily raised from seed, when planted in the open ground, in April or May, and blooms abundantly from July to September; grows from three to four feet high. Its spikes, continually increasing in length, are always surmounted with a crest of beautiful buds and flowers, which are of a pale pink-purple. It is beautiful in the garden, but withers very quickly when cut.

C. pentaphylla. — This is also a handsome annual, of the same habit of the last; about two or three feet high; the flowers pure white; the odor of the plant is most offensive.

C. spinosa is a spiny plant, which grows about four feet high, and bears a spike of beautiful white (sometimes pinkish) flowers. All the species flourish in any common garden soil.

However beautiful and curious these plants may be, and desirable for show, they are repulsive to the smell and unpleasant to the touch, and, therefore, will not be favorites.

C O B Æ.

Cobæ scandens. — Mexican Climbing Cobæ. — This is the most rapid green-house plant known, having been found to grow two hundred feet in one summer, in a conservatory. It is a perennial, but will not stand the winter, and, unless cultivated in a green-house, is classed with tender annuals. It flourishes well in the open air, especially if it is first started in a hot-bed, in a pot, and turned into the ground in June. I have found it to continue blooming after a number of moderate frosts. The flowers are large, purple, and bell-shaped. The foliage is handsome, and the tendrils, which are fine and silky, will attach themselves to anything within reach, even a cobweb. If located in a warm place, it will cover a large space before it is destroyed by the frost. It can be raised by cuttings, but is rather difficult to keep through the winter.

C O L L O M I A.

Collomia coccinea. — A very lively flower, growing in heads of bright carmine red, rather desirable and early. The seeds have, like some of the *Salvias*, the curious property of becoming invested with vegetable mucus when moistened with water.

C O L L I N S I A.

Collinsia bicolor. — Two-colored Collinsia. — A beautiful hardy annual, with white and light-purple flowers, which are numerous and pretty in June and July; one foot high.

C. grandiflora. — Large-flowering Collinsia. — This is another beautiful species, with large flowers, blue and purple; flowering at the same time, and about the same height, but

more spreading. Both species are suitable to be planted in masses. Foliage delicate.

COMMELINA.

Commelina cælestis. — Sky-blue Commelina. — Tender annual, or perennial if the roots are taken up and housed. The splendid blue flowers of this plant cannot be excelled, and its profusion of blossoms renders it deserving of cultivation in every flower-garden. The plant blooms from the middle of June to October. The roots are tuberous, and keep well through winter, if taken up after the blooming season, and preserved like Dahlia roots. Plants from the old roots grow, in good soil, from two to three feet high; those from seeds reach only from one to two feet. The following is the mode of management I have practised: — I fix upon a circular bed, eight feet in diameter, and in the first week in May I plant four feet of the centre with the old roots, placing the crowns just under the surface of the soil. The outer portion of the bed I plant with *spring-sown* plants, that have been raised in pots placed in a frame. Both the roots and plants should be planted about six inches apart. Thus, the centre of the bed being much higher than the outer part, the appearance is that of a splendid blue cone of flowers, scarcely to be excelled in beauty. Seeds are produced in abundance, and may be obtained of seedsmen at a small cost.

COREOPSIS.

Coreopsis Drummondii. — Drummond Coreopsis. — A very showy hardy annual, with large yellow flowers, suitable for growing in masses, as it continues in bloom all the season. One foot high.

C. tinctoria will be found under the head of *Calliopsis*.

CONVOLVULUS.

Morning Glory.

Convolvulus minor. — Dwarf Convolvulus. — A beautiful hardy annual, easily cultivated, affording a large mass of beauty from July to October. The plant spreads out much in every direction from the centre, so that a bed of them, with the plants two feet distant from each other, will interlock. It is not exceeded in elegance by any plant, when profusely covered with blue and yellow flowers, which open in the morning, and continue the greater part of the day, if the sun is not powerfully hot, in which case they often fade by noon. The seed should be sown in April.

C. major. — Morning Glory. — A well-known annual, of easy culture, and suitable for covering arbors or shading windows, consisting of many varieties, as white, rose, purple, and striped.

CREPIS.

Crepis barbata. — Purple-eyed Crepis. — The Purple-eyed Crepis is an uncommonly hardy and beautiful annual, of the easiest culture. Sown in masses, and the plants thinned out to eighteen inches distance, it makes a splendid appearance. It begins to flower the first of July, and continues, till October, covered with beautiful flowers, the rays of a light yellow, finely contrasted with the brilliant purple-brown of the centre.

DATURA.

Thorn Apple — Apple of Peru.

Datura, tatula, ferox quercifolia. — The first of these is the common weed called the Apple of Peru; *ferox* resembles it in

growth, but the flower is pure white; *quercifolia* we think the handsomest flower of either species; it is larger than *tatula*, measuring five inches across the mouth, white, the nerves of a fine pink, shaded with a dull purple. The fruit is contained in a smooth capsule, and the leaf is somewhat like the oak, (*quercus*,) whence its name. The manner of growth is very elegant; and as each succeeding blossom burst through its fine calyx, we thought it more beautiful than its predecessor. We can truly recommend this as an ornament to the garden.

D. stramonium, double purple, is also a very desirable flower.

DELPHINIUM.

Larkspur.

The annual Larkspurs are familiar to almost every one. Some of the species and varieties are among the most common ornaments of the garden. They are all very hardy, and flower stronger when self-sown in summer, or planted in beds, or in the border, in August or September. There are two distinct species in common cultivation, differing essentially in their habits.

Delphinium consolida. — Branching Larkspur. — This variety grows from two to three feet high, producing its flowers in spikes, which are continually pushing out from the main stem and branches, giving an abundance of bloom through the season. Flowers blue, white, pink, and variegated. The double varieties are the most desirable. Masses of the different sorts appear to great advantage.

D. ajacis. — Dwarf Rocket Larkspur. — The double varieties of this species are among the most showy ornaments of the flower-garden, when properly grown.

A bed of the double varieties, consisting of white, pearl color, lilac, pink, light and dark purple, is equal in beauty to a bed of fine Hyacinths. Autumn-sown plants will grow from

one and a half to two feet high. When grown in a rich, stiff soil, the Rocket Larkspur must always be considered the greatest summer ornament of the garden. The seed should be sown in beds where it is to remain, as it does not succeed well when transplanted. The plants should be thinned out so as to stand six inches apart.

DIANTHUS.

Dianthus Chinensis. — Indian Pink. See *Dianthus*, page 111.

DIDISCUS.

Didiscus cærulea. — Sky-blue Didiscus. — This is an elegant annual. The plant is very much branched, producing its fine blue flowers in numerous umbels, or hemispherical heads, of the size and shape of a large quilled Aster. Two feet high; in July and August. Sow the seed in the open ground in May. Plants forwarded in a frame will begin to flower in June.

DOLICHOS.

Dolichos lablab. — Purple Hyacinth Bean. — A fine, tender annual climber, growing from eight to fifteen feet in a season. Treatment very much like the common bean. Flowers in clustered spikes. There is a variety with white flowers.

EUTOCA.

Eutoca viscida. — Clammy Eutoca. — The whole herbage is of a dull green, copiously clothed with glandular viscid hairs. The glands of a soot-black; stem about one foot high. When

in blossom, few plants possess greater attractions, from the extreme brilliancy of the flowers, which are of the deepest azure-blue. It is a hardy annual, and easily raised from seed. In bloom most of the season.

E. divaricata. — Straggling Eutoca. — A small, light-violet flower, from California, not very showy. *E. multiflora* is in gardens here, but, although preferable to this, is not very likely to become a favorite.

E. Wrangelina. — Baron Wrangel's Eutoca. — This pretty flowering annual is a native of New California, and has very recently been introduced into this country. The plant is of ready culture, growing freely in the open border, and blooming for several months, and has a peculiarly neat appearance. The cymose heads, of pale-blue blossoms, being showy; each blossom is about half an inch across.

E. Menziesii. — Menzies' Eutoca. — A beautiful hardy annual. The whole plant is clothed with hoary down, intermixed with longer bristly hairs. Flowers light-blue, in racemes an inch long. The plant should be cultivated in a light soil and sunny situation.

EUPHORBIA.

Euphorbia variegata. — Variegated Euphorbia. — A most elegant species; a native of Missouri and Arkansas Territory; an annual much cultivated now in gardens, and highly esteemed; flowering late in autumn, and remarkable for its abundant variegated floral leaves.

Leaves oval entire; wavy, edged with white; capsules smooth; stems hairy.

The seed must be sown early in April; it is some time vegetating.

ERYSIMUM.

Erysimum peroffskianum. — Palestine Mustard. — This is a hardy annual, having some resemblance to the Wall-flower. The plant is erect; one foot to one and a half high; bearing racemes or spikes of deep-orange blossoms from June to September: a mass of it is very showy.

GAILLARDIA.

Gaillardia picta. — Painted Gaillardia. — A very handsome plant, naturally a perennial, but produces its flowers the first year from seed, if started early. It does not stand the winter without protection. It has large, beautiful crimson and yellow flowers in August; one to two feet high.

G. bicolor. — Two-colored Gaillardia. — This variety appears identical with *Gaillardia picta*, excepting all the leaves being entire. The fine large blossoms, more than two inches across, the large crimson disk, surrounded by a ray of fine yellow, produce a very showy appearance, and render the plant well deserving a place in every flower-garden. *Gaillardia*, in compliment to M. Gaillard de Marentonneau, an amateur botanist.

GILIA.

Gilia tricolor. — Three-colored Gilia. — This pretty annual, originally from California, has found its way into most of our gardens.

“This is one among the prettiest hardy annuals, not only of recent introduction into the country, but that is known in our gardens. It is, too, the more pleasing from the variation of tint seen among its delicate flowers, some of them being white.”

Pretty as this flower is, we fear it will not find favor with most cultivators; something more showy is wanted to suit the

common taste. The flowers are disposed in panicles, with a yellow eye, surrounded by a purple ring, bordered by pale-blue or white. It does not exceed one foot in height. "From its humble stature and neat growth it is peculiarly suited for culture in masses; a style of planting showy flowers which produces a striking effect, where it can be pursued on a tolerably extensive scale."

G. tenuiflora. — Slender-flowered. — A new hardy annual from California. Mr. Douglass has appended the name *Gilia splendens* to the plant, but it does not certainly merit such an appellation, being much inferior to *G. tricolor*. The flowers of the present species are produced upon slender, branching stems, which rise to about two feet high; each flower is about a quarter of an inch across, of a pale rose color, slightly streaked with red outside, and of a fine violet in the inside. The flowers do not produce much show where a single plant is grown; but, if grown in masses, it makes a pretty addition to the flower-garden.

G. capitata. — Headed *Gilia*. — A pretty hardy annual, with blue, and a variety with white, flowers, in clusters or heads; from June to August; two feet high.



G O M P H R E N A .

Globe Amaranth.

"Amaranthus such as crown the maids
That wander through Zamara's shades."

Gomphrena globosa, — Globe Amaranth, — of which there are three common varieties, the white and the purple and the striped, are desirable for their heads of flowers, which, if gathered before they are too far advanced, will retain their beauty for several years. The seed is difficult to vegetate in the open ground; soaking in milk twelve hours is recommended; scalding, perhaps, would do better.

A powerful heat in the hot-bed will start it quick, and destroy the plant also, unless care is taken. *Gomphrena* is said to be a name applied by the ancients to a plant bearing red and green leaves on the same stem ; probably our *Amaranthus tricolor*, which is a well known tender annual, of some show.

GODETIA.

Primrose.

This genus of plants has been separated from *Oenothera*, to which it formerly belonged. They are generally very beautiful plants ; hardy annuals, of easy cultivation in any good garden soil.

Godetia Lindleyana. — Lindley's Godetia. — This species is one of the prettiest of the tribe. The flowers are either white or blush, with a rich purple blotch on each petal, which gives great beauty to the flower. In flower in July and August ; about one foot high.

G. rubicunda. — Ruddy Godetia. — A handsome hardy annual plant, growing about one and a half foot high, with purple flowers appearing in July and August. A native of California.

G. densiflora, — Dense-flowered, — has its purple flowers in clusters.

There are many other species and varieties, all worthy of cultivation, as *G. lepida*, *quadrivulnera*, *purpurea*, *bifrons*, &c.

HELIANTHUS.

Sun-flower.

"Great Helianthus climbs the upland lawn,
And bows in homage to the rising dawn ;
Imbibes with eagle eye the golden ray,
And watches as it moves the orb of day."

Helianthus annuus. — Garden Sun-flower. — This lordly plant is too well known to need any description. A plantation

of them, in some locations, will do very well; but they are great exhausters of the soil.

The Double Dwarf Sun-flower is more desirable; the tubular florets of the disk being changed into ligular ones, like those in the ray; from three to six feet high.

HIBISCUS.

Hibiscus vesicarius. — African Hibiscus. — This is a plant of extremely easy culture; should be planted early in the spring. The petals are large and showy, of a straw color, the centre a deep rich brown or purple, finely contrasted with the brilliant gold color of the stamens or anthers. The flowers quickly perish, but, to compensate for their frailty, it continues to bloom from June to September.

HELICHRYSUM.

Everlasting Flower.

A family of plants much admired on account of the beauty of their flowers, when dried; which, if gathered when they first open, and carefully dried, retain their color and shape for many years. They are, therefore, highly prized for winter mantel bouquets, and ornaments for vases, &c.

Helichrysum bracteatum. — Golden Eternal Flower. — It is a hardy annual, growing two feet high, producing flowers from July to November. There is a variety with white flowers.

H. micanthrum. — Large Everlasting Flower. — This is of the same height as the preceding, flowering at the same time; flowers much larger; one variety white, tipped with red; another yellow, tipped in the same way; all are easily cultivated in a rich, loamy soil. Plants, forwarded in a frame, are in bloom from June to November.

IBERIS.

Candy-Tuft.

Iberis, from the country called Iberia, now Spain. Most of the species grow in such countries. They are generally pretty plants, and some of them cultivated in gardens as hardy annuals, under the name of Candy-Tuft, — a name which was originally applied to the *I. umbellata* only, which was first discovered in Candia.

I. umbellata has umbels of purple flowers, in June and July.

I. amara, or bitter, has white flowers, in umbels, at the same time. Both are hardy annuals, of no little beauty, (the last from England,) and worthy of cultivation. The seed should be sown early in April; height about one foot.

I. coronaria. — Rocket Candy-Tuft. — This hardy annual is of considerable beauty, being very showy, and a pure white. The clusters of racemes are numerous and very large, being three or four inches long. At a distance, the fine flowers very much resemble the Double White Rocket. It blooms for several months during the summer. It well deserves a place in every flower-garden.

All the species and varieties of the Candy-Tuft are very hardy, and easy to cultivate. The fall-sown seeds flower early; those sown in April, from July to September; and some of the species until the frost in October. There is a variety, called the New Crimson, that is not crimson, but a deep, rich purple. All the varieties look best in beds, or masses.



IMPATIENS.

Balsam.

Impatiens balsamina. — Touch-me-not. — The Double Balsam is one of the most prominent ornaments of the garden, in July and August. Old seed is considered by some to be the best, as more likely to produce double flowers. The seeds

should be saved from double flowering plants only ; all single flowering ones should be destroyed as soon as they appear. Most plants raised in a hot-bed do better to transplant into small pots, and shift to larger as they increase in size. Balsams thus treated, sown the first of April, will begin to flower the last of May, and may be turned into the ground in June, without checking their growth in the least. If the soil is rich and a little moist, or supplied with moisture, the plants will attain a monstrous size, and be completely covered with a profusion of flowers all the season. All the full double varieties are beautiful ; the colors are crimson, scarlet, light and dark purple, rose, blush, white, &c.; some produce white and red or purple flowers on the same plant ; others are variegated, or spotted with various shades of red and purple, which are decidedly the most elegant. The seed should be sown in the open ground about the middle of May ; they will then flower very well for two months of the season.

IPOMEA.

The greater part of this genus are handsome climbing plants.

Ipomea quamoclit. — Cypress Vine. — There is no annual climbing plant that exceeds the Cypress Vine, in elegance of foliage, gracefulness of habit, or loveliness of flowers.

The only difficulty in its successful cultivation, in our climate, is the shortness of our seasons. It requires heat to bring it to perfection, and will not give general satisfaction, unless the plants are brought forward in the hot-bed.

If it is planted in the open ground, it will not be of any advantage to sow the seed before the last of May, as it will not grow till the ground is warm. Previous to sowing, the seed should have boiling water poured over it, which should remain until the water is nearly cold. If sown in a warm place, the plants will appear above ground in a few days. The plants are difficult to transplant, therefore the seeds should be sown where

the plants are to remain. Without scalding, or unless the hull of the seed is taken off, it will remain in the ground a long time without vegetating. Plants thus raised will, in a warm season, do very well, but much inferior to those that have been forwarded in the frame. The seeds should be sown in a hot-bed, with a brisk heat, in March, in small pots, a number of seeds in each pot, so as to be sure of two or three plants in each. In a month, if carefully attended, the roots will have filled the pots; it will then be necessary to shift the plants into larger ones. Before the first of June, the plants will begin to flower; but do not be in haste to put them into the ground; keep them in the frame, where they can be protected in case of cold storms, but expose them during the day to the full influence of the sun and air, by taking the sashes entirely off. By the 10th of June, the plants may be turned into the ground very carefully, so that the roots may not be disturbed. The ground should be made rich with well-rotted manure; the plants should be placed at the distance of one foot, or a foot and a half, if the object is to cover a wall or trellis. I have covered a trellis by the middle of August, twenty-five feet long and five high, with its elegant feathery foliage, so as to form a complete screen. The flowers, like those of the Morning Glory, appear in the morning and perish before noon. They are of a deep crimson color, and contrast finely with the rich green of the leaves. There is another variety, with white flowers. It should be sheltered from the northerly winds by a fence, trees, or buildings. An elegant cone may be made by setting a straight pole substantially into the ground, eight feet high from the surface; describe a circle round it, whose diameter shall be three feet; let about ten pots of plants be turned into the circle; drive down a stake by the side of each, nearly to the surface, to which tie a strong twine, that may be stained or painted green; let it be carried to the top of the pole and fastened there; then bring it down to the next stake, and so on until the whole is completed. With a little assistance the vines will climb the strings, and by the middle of August will be at the

top of the pole, making a splendid show, more than paying for all the trouble. It may be trained over an arch, or any other way fancy may direct. This beautiful vine is a native of the Southern States.

I. coccinea. — Scarlet Morning Glory. — A handsome species flowering in great profusion towards the close of the season, growing ten feet high; a native of the West Indies. The flowers are bright scarlet in one variety, and, in another, yellow and quite small; from July to the first hard frost. The seed may be sown from the 1st to the 10th of May, or treated like the Cypress Vine.

I. lacunosa. — Starry Ipomea. — This is also a handsome species; a North American plant; culture the same as *coccinea*; with delicate blue flowers, from July to September; ten feet high. There is also a variety with white flowers.

I. nil is a highly beautiful plant, with the corollas of a clear blue color, whence its name *anil*, or *nil*, (indigo); treatment same as the last, and flowering the same time, attaining the same height; a North American plant.

LATHYRUS.

Sweet Pea.

“Peas of all kinds diffuse their odorous powers
Where Nature pencils butterflies on flowers.”

Lathyrus odoratus is one of the most beautiful, and also one of the most fragrant, of the species, and is deservedly one of the most popular annuals which enrich the flower-garden. The varieties are, white, rose, scarlet, purple, black, and variegated. Each variety should be sown by itself, in circles about a foot in diameter, three or four feet from any other plant. When the young plants require support, a light, neat stake, or rod, should be stuck into the centre of the circle, to which they should be slightly fastened as they advance in height. Some are in the

habit of supporting them with brush, which looks very unsightly before it is covered with the vines.

The Sweet Pea will grow five or six feet high, in rich ground, and continue in bloom from July to October. The seed should be sown as soon as the ground is in order in the spring.

LASTHENIA.

Lasthenia glabrata. — A yellow flower, from California, somewhat in the style of a small Sun-flower; not likely to become very popular.

LAVATERA.

Lavateria, — in memory of two Lavaters, physicians of Zurich. The species resemble those of *Malva*, in general appearance and culture.

L. trimestris. — Common Lavatera. — A popular hardy annual, of easy culture, and handsome appearance, flowering from July to September; one variety with white, and another with pink, flowers; two feet high.

LEPTOSIPHON.

Leptosiphon androsaceus — Androsace-like Leptosiphon. — The name of the genus now before us is derived from the Greek words *leptos*, slender, and *siphon*, a tube. Its application is evident.

This is a very pretty hardy annual, of humble growth, varying, in the color of its flowers, from white to pale pink, or purple. It is a valuable little plant for flowering early in the summer from autumn-sown seeds.

The physiologist may be recommended to examine the leaves of this plant, which are deeply divided into segments, always consisting of an even number, as four, six, eight, &c.

LIMNANTHUS.

Limnanthus Douglassii. — Mr. Douglass' *Limnanthes*. — A native of California, from whence it was sent by Mr. Douglass. The plant is annual, quite hardy, decumbent, stems growing ten or twelve inches long. The ends are crowned with numerous fragrant flowers, each about an inch across, much resembling in size and form the *Nemophila grandiflora*. A large portion of the flower is a deep yellow, the extremities of the petals being white. It blooms from June to August. *Limnanthes*, from *lumen*, a lake, and *anthos*, a flower; the plant, probably, in its native habitats, growing by the sides of lakes, rivers, &c.

LOASA.

A curious genus, mostly annuals, remarkable for the beauty of their singular flowers, and as remarkable for the stinging appendages of the plants.

Loasa acanthifolia and *brionifolia*. — These are elegant yellow flowers, very curious in their structure; but the plants possess one quality which must forever banish them from the *pleasure garden*; the whole plant is covered with hairs, which, on being even slightly touched, eject a poison into the flesh, causing a painful blister, the effect of which does not pass off for several days.

L. lateritia. — Brick-red Loasa. — It is a native of South America; a climber, growing twelve to twenty feet in a season. The seed should be sown in a warm border, early in May. The flowers are prettily colored between a brick-red and orange shade, and produced in profusion through the summer and autumn. It is very ornamental, when properly trained upon a trellis; but it will be best not to come within touching distance of the plant without a good pair of gloves.

L. pentlandica is another beautiful species, of later introduc-

tion than the last, and said to be more tender; this is also a climbing plant.

LOPHOSPERMUM.

Lophospermum scandens. — Climbing Lophosper. — This beautiful climber is properly a green-house perennial, but is sometimes cultivated as an annual; the plants flowering the first year in the open ground, if they have been forwarded in the hot-bed. The flowers are funnel-shaped, two inches or more in length, of a dull purple. There are a number of other varieties, with purple or crimson flowers. This beautiful climber is found growing over bushes, making a splendid appearance, in the valley of Mexico. A variety, or species, with white flowers, was discovered in the same location.

LUPINUS.

Lupin.

There are a number of annual Lupins in much esteem for their velvet-like leaves and fine large flowers, all of vigorous growth and easy to cultivate. The seeds should be planted in April. The old varieties cultivated are, *L. pilosas*, rose; *L. albus*, white; *L. hirsutas*, great blue; and *L. luteus*, with fine yellow flowers; all flowering in July and August.

L. varius is a more delicate species, with smaller foliage and fine blue flowers; in bloom the same time as the others.

L. Hartwegii, — Hartweg's Lupin, — is one of the most beautiful of all the species, with delicate foliage and numerous dense spikes of rich blue flowers; in flower from July to September; from one to one and a half foot high, suitable for planting in masses.

L. Cruikshanki. — Cruikshank's Lupin. — This is an elegant

species, growing from two to three feet high, with large spikes of white flowers, shaded with yellow, and blue or purple.

The whole family flower better in a lean soil than in a rich one.

M A D I A .

Madia elegans. — Elegant Madia. — A pretty annual, of recent introduction. The seeds should be planted in the border in May. If the plants can have a shady location, it will be much the best, as the bright sunshine causes the petals of the flower to curl up, thus destroying much of their beauty. The flowers are large, with yellow rays and brown disk. Early in the morning, or just at night, the blossoms appear exceeding splendid; about two feet high.

M A L O P E .

Malope grandiflorum. — Grand Flowering Malope. — This very showy plant is of the Mallow tribe; grows two feet to two feet six inches high. The flowers are produced in great abundance; and, being of a fine rosy-crimson, make a very gay appearance, rendering it a desirable plant for giving a distant attracting effect. It blooms from June to the end of October, unless cut off by frost. Seed should be sown in pots early in March, and be raised in a hot-bed; or may be sown upon a hot-bed, under a frame or hand-glass. The plants may be set out in the open border by the middle of May.

M. grandiflora alba. — A variety with white flowers, but rather more delicate in its habits than the other variety. Both of the varieties are better grown in a green-house, but are perfectly hardy. The plant blooms most profusely in a good loamy soil, mixed with a little manure or leaf-mould. If the soil be very rich, the plant will be liable to grow too vigorously, and produce a vast profusion of foliage, which will

rather conceal the flowers; but if moderately enriched, it will produce one mass of bloom. I find it profitable to give all my flower-beds an addition of fresh soil every winter, generally adding about two or three inches deep. If the *Malope grandiflora* is not desired to come into bloom *before the beginning of August*, the seed may be sown in April or May, in the open border where it is desired that the plants shall blossom. The plant produces seed in abundance, which ripen well from plants that bloom early in the summer.

MAURANDIA.

Maurandia Barclayana is an elegant green-house, climbing perennial, but may be raised from seed, and brought forward in a frame, so as to flower profusely from August to October, or till severe frosts later in the season. Plants may be had at most green-houses, at small expense, which, put out in the border with a little frame to which to attach its tendrils, will be loaded with its rich, purple, foxglove-shaped flowers, every day through the season. There are a number of other varieties, all handsome. The plants will grow from five to ten feet high.

MARTYNEA.

Unicorn Plant.

Handsome tropical annuals, remarkable for the size of their flowers, compared with their leaves.

Martynia proboscidea. — Common Martynia. — This plant is often cultivated in vegetable gardens for its capsules, which, when green and tender, make a fine pickle. It is also a curious plant for the border, on account of its large flowers; but more particularly for its singularly curious seed-vessels.

M. fragrans. — Fragrant Martynia. — This is a beautiful new annual, that succeeds very well when sown in the open

border the 10th of May. It is undoubtedly one of the finest species of the tribe ; no other one will compare with it. It is robust in its habit, throwing out large lateral branches, the plant growing three feet high, producing an immense profusion of flowers from the first of August till destroyed by frost. The flowers are large, resembling the *Gloxinia*, thick-set on spikes, and are of a delicate rosy lilac, blotched and shaded with bright crimson, with an agreeable odor. The foliage is thick, more soft and velvety than the above-described species. The seed-capsules add much to the appearance of the plant.

MATHIOLA.

Gillyflower.

This genus contains many beautiful species and varieties of plants, with fragrant, handsome flowers, which have been so much hybridized by florists, that it would puzzle a botanist to define the species in most of the cultivated sorts. The German stocks are very much celebrated for the great variety of their color and size of their flowers.

I give Cobbett's description and mode of cultivation of this fine tribe : —

“ If I were to choose amongst all the biennials and annuals, I should certainly choose the Stock. Elegant leaf, elegant plant, beautiful, showy, and most fragrant flower ; and, with suitable attention, blooms, even in the natural ground, from May to November in England, and from June to November here.

“ The annuals are called the Ten Week Stocks. And of these there are, with a pea-green leaf, the red, white, purple, and scarlet ; and then, there are all the same colors with a wall flower, or sea-green leaf.

“ Of the biennials, there are the Brompton, of which there are the scarlet and the white ; and the Twickenham, which is purple.

“ As to propagation, it is of course by seed only. If there

be nothing but the natural ground to rely on, the sowing must be early ; the earth very fine and rich. The seed is small and thin, and does not easily come up in coarse earth. If the plants come up thick, thin them when very young, and do not leave them nearer together than six inches. They, however, transplant very well ; and those that have not place to blow in, may be removed, and a succession of bloom thus secured.

“ If you have a green-house, glass-frame, or hand-glass, you get flowers six weeks earlier. The biennials are sown at the same time, and treated in the same way.

“ They blow the second year ; but if there be great difficulty in preserving them in the natural ground, through the winter, in England, what must it be here ? Indeed, it cannot be done ; and yet they are so fine, so lofty, and such masses of beautiful and fragrant flowers, and they continue so long in bloom, that they are worth any care and any trouble. There is but one way ; the plants, when they get ten or a dozen leaves, must be put into flower-pots.

“ These may be sunk in the earth, in the open ground, till November, [Long Island,] and when the sharp frosts come, the pots must be taken up and placed out of the reach of hard frosts, and where there is, however, sun and air. When the spring comes, the pots may be put out into the natural ground again ; or, which is better, the balls of earth may be put into a hole made for the purpose ; and thus the plants will be in the natural ground, to blow.

“ In this country, they should be placed in the shade when put out again, for a very hot sun is apt to tarnish the bloom.”

MEDICAGO.

Medicago sativa is the *Lucerne*, a valuable agricultural plant. The following species are cultivated on account of their

curious seed-vessels, and not for their flowers, which are inferior.

M. scutellata. — Snails. — An annual. It has curious seed-pods, which resemble a snail, and is generally known by the name of Snails.

M. intertexta. — Hedge-hog, — is an annual, cultivated for its curious seed-vessels. Flowers yellow, in July and August.

M. circinatus. — Caterpillar, — is also a very curious annual. The seed-pods have the appearance of caterpillars; flowers yellow, of no beauty; in June and July.

MESEMBRYANTHEMUM.

Ice Plant.

“With pellucid studs the Ice-flower gems
His rimy foliage, and his candied stems.”

M. cordifolium. — Common Ice Plant. — This is a singular tender annual plant, with thick, fleshy leaves, that have the appearance of being covered with crystals of ice. It succeeds well in the open border, when forwarded in small pots, in light sandy soil, in a hot-bed. When the young seedlings have obtained sufficient size, they should be shifted into larger pots, in the same kind of soil in which the seeds were sown. They may be grown in pots, or turned out in the open ground in June. The plants are highly ornamental, and contrast well with other annuals. There is not much beauty in the flowers.

MIMOSA.

Mimosa sensitiva. — Sensitive Plant, — is a well-known annual, from Brazil. It succeeds in the border during the summer months, if the seed is sown, in March or April, in a hot-bed, and the plants forwarded in pots, and turned out in

June. Thus treated, it will flourish, and ripen seeds in favorable seasons, and grow to a large size.

This singular plant calls forth universal admiration. It has been a puzzle to many a philosopher. The cause of its sensitiveness has lately been more satisfactorily explained, yet it is still shrouded in mystery. The plant is most irritable in the greatest heat. Dr. Darwin thus characterizes it:—

“Weak with nice sense the chaste Mimosa stands,
From each rude touch withdraws her tender hands;
Oft, as light clouds o’erpass the summer glade,
Alarmed, she trembles at the moving shade,
And feels, alive through all her tender form,
The whispered murmurs of the gathering storm;
Shuts her sweet eye-lids to approaching night,
And hails, with freshened charms, the rising light.”

MIMULUS.

Monkey Flower.

The species are showy plants, of the easiest culture, in almost any soil or situation not over dry.

They are perennials in the green-house, where they are easily propagated from cuttings. In the open ground they are annuals, flowering profusely the same season, from seed. I have known them stand through the winter, in a moist place, that was covered with ice the most of the season.

The seeds are almost as fine as dust, and require considerable attention to get them up.

I have found seeds, self-sown in the autumn, to come up freely in the spring, commencing flowering in June, and continuing in bloom till October.

They seem to succeed best in a moist and rather shaded place.

Mimulus rivularis has the reputation of producing a great number of beautiful species, (as we are informed by an English

periodical), "as *Youngii*, *Smithii*, *Elphinstonea*, *Rowsoneana*, *Wheeleriana*, *Ranbyana*, &c. This plant delights in a rich, moist soil, mixed with sand, and if it be a little shady it is beneficial; the colors of the flower are better, and the plant more vigorous. A free supply of water is necessary, in order to grow this successfully. I have had a single plant grow three feet and a half high, and be six feet in circumference, producing a vast profusion of flowers, most amply repaying the little extra attention paid to its culture. When I obtained this plant at first, I was instructed to grow it in a small, shallow pond, keeping the roots immersed in water. I was told it would there succeed far better than by any other method; but in this particular I find it very much to the contrary. A soil as above described, and a good supply of water in dry weather, are all that is required. I had a plant of *M. Elphinstonea*, grown in a pot this summer, the size above particularized. The species and all its varieties are readily increased by taking off rooted shoots, or by cuttings. Seed sown in spring, and the plants pricked out into a bed of rich soil, will flower by July, and continue through the season. The impregnation of these kinds, with any or all of the others, produces a pleasing and interesting variation of flowers."

The flowers are tubular, with fine, wide-spreading segments; the ground color, all shades of yellow, from light straw to deep orange, beautifully spotted or blotched with crimson or scarlet. On some varieties there is a large blotch or spot on each segment of the corolla, while the throat of the plant is beautifully spotted or mottled. It is a flower very much given to sporting.

M. cardinalis is another very ornamental species, with brilliant scarlet flowers, with varieties having rose or orange-colored blossoms. It requires the same treatment as the other varieties, and is equally rapid in its growth. I have not, however, ever raised plants as large as the one described above.

M. moschatus. — Musk-scented. — This is well known as the Musk Plant. It is dwarf in its habit, with small yellow

flowers, requiring the same soil and treatment as with the other species and varieties.

There are many other species or varieties of this curious plant, all pretty.

MIRABILIS.

Marvel of Peru.

Mirabilis is a Latin word, signifying something wonderful or admirable, and applied with some reason.

M. jalapa, or common Four-o'clock of the gardens, is a very ornamental plant for borders. When cultivated it sports into many agreeable varieties.

It is considered and treated as a tender annual. It may, however, be planted the last of April, and bears a profusion of flowers in August and September. Although treated as an annual, it is, in its native country, a perennial, with the rest of the species. Its large tuberous roots, if taken up and preserved during winter, like the Dahlia, will flower perennially. The flowers are red in its native country, the West Indies; but in the garden are to be found white, yellow, various shades of red, and variegated flowers. The powder of these roots, washed, scraped, and dried, is one of the substances which form the jalap of druggists. Stem two to three feet high.

M. longiflora, like the last, is handsome and fragrant. The flowers are pure white, with purple bottom, standing on long tubes; in July and August.

MOMORDICA.

M. balsamina, or Balsam Apple, is cultivated as an object of curiosity, and for its fruit, which is considered excellent, by those who are in the habit of using it, for curing wounds.

It has fleshy, ovate fruit, remotely tubercled in longitudinal

rows; smooth in the other parts; red when ripe, bursting irregularly, and dispersing the seeds with a spring.

The fruit is used in Syria for the same purpose that it is here. They cut it open when unripe, and infuse it in sweet oil, exposed to the sun for some days, until the oil has become red. This, dropped on cotton, is applied to a fresh wound. The fruit here is not picked until ripe, and then preserved in spirit. A piece of the fruit is bound upon a fresh wound, which is considered efficacious. A native of India; tender annual; a climber four feet high; flowers yellow, in July and August; time for planting in May.

M. charantia. — Balsam Pear. — Like the last, a tender annual, the same height and color of flower; growth and habits the same. Fruit fleshy, oblong, acuminate, angular-waisted; from the East Indies. This and the preceding must be supported with stout brush, four feet high.

MYOSOTIS.

Forget-me-not.

Myosotis, — so named from Greek words signifying a “rat’s ear.” Its oval, velvety leaves are like the ear of a rat or mouse.

M. arvensis is a well known sentimental plant, bearing very delicate blue flowers, with white and yellow eyes, in little spikes or clusters, most of the season; six inches high.

It flourishes best in a moist, shady place. Propagated freely from seeds. Autumn-sown plants succeed best.

NEMOPHILA.

Nemophila insignis, — Opposite-leaved Insignis, — is an elegant hardy annual, producing brilliant blue flowers, on stems six or eight inches high.

Self-sown seeds produce plants that flower in May, and continue a long time in bloom if in a shady situation. They will not flourish if exposed to the hot sun.

N. aurita. — Ear-leaved Nemophila. — A hardy annual, with purplish-blue flowers.

N. atomaria, — Dotted-flowered Nemophila, — resembles *N. insignis*, but differs in its white flowers, which are thickly dotted with dark purple. All the species are dwarf.

N. maculata, — Spotted Nemophila, — is a spotted variety of *insignis*, of great beauty, but not common.

N I G E L L A .

Love in a Mist.

Nigella, from niger, black, because of the color of the seeds, which are the parts of the plant used in cookery. The species are curious or neat little plants, with fine-cut leaves, like fennel. *N. damascena* and *sativa* are hardy annuals. In some parts of Europe, the leaves and seed of the latter species, and *N. arvensis*, are used in cookery, instead of more expensive aromatics. They are also said to be extensively used in the adulteration of pepper.

N. damascena is from the south of Europe; two feet high, with light-blue flowers, from June to September.

Flowers in a leafy involucre.

N O L A N A .

Nolana is a diminution of *nola*, signifying a bell in low Latin. The name has been applied to this plant on account of its bell-shaped corolla. The species are hardy annuals, of beautiful appearance when in flower.

Nolana prostrata. — Trailing Nolana. — Elegant annual from

Peru. Its specific name, *prostrata*, from the manner of growing. The stems are prostrate, much branching, and covered with a profusion of flattish, bell-shaped flowers, of a fine blue streaked with black, from July to September. It may be sown early in the spring in the border.

Nolana atriplicifolia.—A new and very handsome flowering annual, of prostrate growth, or, if grown in masses, will rise to half a foot high. The flowers are produced most numerous, and give a very pretty appearance. The plant deserves a place in every flower-garden. It is a desirable plant to grow in order to hang pendulous over the edge of a vase, pot, &c., contrasting with *Verbena melindres*.

The flowers have some resemblance to the Dwarf Convolvulus, (*Convolvulus minor*), fine azure-blue with a white centre, the bottom or tube of the flower yellow. J. B.

O C Y M U N .

Basil.

Ocymun basilicum.—Sweet Basil.—This highly odoriferous plant is frequently known in country gardens, under the name of Lavender. The true Lavender is a half-hardy shrub. Sweet Basil is used in French cookery. It is a very agreeable plant to have in the garden. The seed should be sown in May.

Æ N O T H E R A .

Evening Primrose.

"A tuft of Evening Primroses,
O'er which the wind may hover till it dozes ;
O'er which it well might take a pleasant sleep,
But it is ever startled by the leap
Of buds into ripe flowers."

A family of plants which open their blossoms as dew begins to fall, and generally handsome border flowers. O. *Lindley*-

ana and others have been separated from this genus, and now classed with *Goodetias*.

O. grandiflora, — Great-flowered Evening Primrose, — is a handsome border annual, with yellow flowers, from July to October. Four feet high. A native of North America.

O. nocturna. — Night-smelling Primrose. — An elegant half-hardy biennial from the Cape of Good Hope. Flowers profusely the first season, and may be considered and treated in open air culture as a hardy annual, having a succession of yellow flowers from July to October. Two feet high.

O. tetraptera. — White-flowered Evening Primrose. — A very beautiful prostrate-growing, hardy annual from Mexico. One foot high, with a succession of pure white flowers from July to September, which make their appearance after the sun has descended the horizon, and perish before it rises in the morning.

O. longiflora, an elegant biennial, if the roots can be preserved through the winter, but generally cultivated as an annual, with uncommonly large and showy yellow flowers from July to October. A native of Buenos Ayres. Three feet high.



PAPAYER.

Poppy.

“ And the poppies red,
On their wistful bed,
Turn up their dark blue eyes to thee.”

Papaver rhæas. — Corn Poppy, or African Rose. — The specific name is from Greek, signifying to flow or fall, in allusion to the quickly perishable nature of the flowers. It is a common weed among grain on gravelly soils in England; but, in its double and semi-double varieties, it is one of the handsomest of garden annuals; sporting in a thousand different varieties of scarlet, crimson, purple, pink, white, variegated, and parti-

colored flowers, and continuing all the summer in bloom. It is frequently known by the name of the African Rose. The odor of the flower renders it unpopular; nothing can exceed the beauty and delicacy of the flower.

P. somniferum. — Opium Poppy. — The true Opium Poppy has very large capsules. The flowers are white, of extra size. Another variety has dull-purple flowers. The double varieties are handsome, and, were it not for their bad odor and sleepy properties, would be more highly appreciated in the flower-garden. A bed of full double Poppies, of scarlet, crimson, purple, white and variegated, makes a grand show.

Picotée Poppies are improved varieties with white flowers, spotted or splashed with crimson or scarlet, and very handsome. All the varieties are easily cultivated. None of them can be transplanted with success.

PETUNIA.

Petunia Phœnicia. — An ever-blooming hardy annual, now well known, but not many years an inhabitant of our flower-gardens. Flowers purple; from June to November.

P. nictagynaeflora has large white flowers, coarser in its growth than the last, but of the same spreading habit.

From these two species have been produced innumerable improved varieties, which can be perpetuated only by cuttings or layers, and kept in the green-house through the winter. Seedlings will vary essentially from the parent plant.

These varieties are various shades of white, rose or light-purple, beautifully veined, striped or shaded with crimson or purple, with dark throats.

Single plants should be trained to a trellis or frame-work, and will grow three or four feet high. Planted in masses, they present an ever-blooming, beautiful sight. The plants are repulsive to the smell, and unpleasant to the touch, as the stems and leaves are covered with a viscid substance.

P H L O X.

The only annual Phlox with which we are acquainted is *Phlox Drummondii*, and this, in all its varieties, is worthy of a place in every garden. It is perfectly hardy. When planted in masses, no plant is more showy. The varieties are scarlet, crimson, purple, white, and pink, variegated with all intermediate shades.

It grows about one foot high. To have a constant bloom of this beautiful flower all the season, seed should be sown in autumn, in the hot-bed in April, and in the open ground in June. If the plants are put out six inches distant from each other, they will form a compact mass, and amply repay all the care and trouble of cultivation.

The plants are low and spreading, about one foot high.

P H A S E O L U S.

Phaseolus multiflorus. — Scarlet-flowering Bean. — This is a popular climbing annual, with spikes of showy scarlet flowers, and a variety with white flowers. They are extensively cultivated to cover arbors, walls, or to form screens, for which purpose they are admirably adapted, on account of their vigorous and rapid growth.

Plant the beans the middle of May.

P L A T Y S T E M O N.

Platystemon Californicus. — It is a hardy annual, of considerable beauty, growing in any light, loamy soil, and readily increased by seeds, which it perfects freely in the open border.

It is one of the many interesting discoveries of Mr. Douglass, to whom our collections are indebted for its introduction.

Platystemon lineare. — Linear-leaved Platystemon. — One of the prettiest of all little annuals, with its graceful cups of white and yellow, resembling those of a *Ranunculus*, but far more gay.

It is a native of California, where it was originally found by Douglass, who, however, sent home no seed.



PORTULACCA.

Every person who has had any experience in the garden is too well acquainted with the weed Purslane, or Pursly, and would gladly see an extermination, not only of that plant, but all its kindred. It is indeed a troublesome weed; but no one should be condemned because he happens to have bad relations, nor should *Portulacca splendens*, although a splendid Purslane. In speaking of it we leave off the Purslane, and call it the Splendid Portulacca, for, were its family connections generally known, we should fear it might not receive the attention it deserves; for, truly, it is a great acquisition to the flower-garden, and no plant presents a more brilliant show than this, when planted in masses. The flowers are rosy-crimson, large and beautiful, opening with the bright morning sun. It makes a rich bed from July to October. The plant is dwarf and trailing; leaves small; about six inches high. All the other varieties have the same habit, and equally beautiful.

Portulacca thellusoni, — Scarlet Portulacca, — is exactly like the last, with brilliant scarlet flowers.

Portulacca, var. *lutea*, — the same, with fine yellow flowers, and brown centre.

Portulacca, var. *alba*, — the same, with white flowers, often sporting to white with pink stripes; all the varieties are perfectly hardy, sowing themselves in autumn; only requiring to be thinned out in the spring, or transplanted to beds or wherever wanted.

RESEDA.

Mignonette.

“No gorgeous flowers the meek Reseda grace,
Yet sip with eager trunk yon busy race
Her simple cup, nor heed the dazzling gem
That beams in Fritillaria's diadem.”

Reseda odorata. — Common Mignonette. — This fragrant hardy annual is too well known to need any description. A bed of it should be found in every garden. It continues to bloom and send forth its sweetness all the season, perfuming the whole region about the premises. Self-sown plants begin to produce flowers in June. The plants are in great demand in and about London and other great cities, being sold in pots and in bouquets. Some idea of the extent of its cultivation may be derived from the fact, which I heard from a creditable London seedsman, that he alone sold a ton and a half of the seed yearly.

RHODANTHE.

Rhodanthe Manglesii. — A most delightful plant, from the new English colony at Swan River; it is one of the tribe called everlasting, from its remaining perfect throughout the winter, if gathered when in bloom, and resembles the *Helichrysum*. A plant exhibited at a meeting of the London Horticultural Society, measured from eighteen inches to two feet in height, and was covered with hundreds of open flowers, and expanded rosy buds; it remained in blossom three months.

SALPIGLOSSIS.

Salpiglossis, from two Greek words, signifying a trumpet and a tongue, in allusion to the tubular, yet tongue-shaped, extremity of the style.

The genus contains many varieties of ornamental plants, originally from Chili.

In their native habitats they are perennials; but here a biennial in the green-house, or a tender annual in the open air. They succeed finely if the plants are started in a frame, flowering in July and August; from one and a half to two feet high.

Salpiglossis atropurpurea is extremely beautiful; being altogether of a fine, rich, dark-velvety puce color. The flowers of all the varieties are funnel-shaped, something after the fashion of the *Petunia*, but not so broad.

S. straminea has pure yellow flowers.

S. Barclayana and *hybrida* are iron-brown, and yellow veined with brown.

S. sinuata, flowers dark blood color, veined or striped. *S. picta* has beautiful striped flowers.

The best soil is a mixture of loam and sand, enriched with rotted horse-manure and a little leaf mould. In a heavy garden soil it will not succeed so well.

The green-house is the proper situation for this pretty flower.

SCABIOSA.

Scabious.

“The Scabious blooms in sad array,
A mourner in her spring.”

Scabiosa atropurpurea. — Mourning Bride. — A hardy ornamental plant, suitable for the border; it may be sown any time in May, and will produce its flowers from July to October; two feet high. There is a great variety in the flowers of different plants; some of them are almost black; others a dark puce purple, and various shades, down to lilac; they are produced in heads.

SCHIZANTHUS.

Schizanthus, from Greek words *to cut*, and *a flower*, in allusion to the numerous divisions of its beautiful purple and yellow flowers. Tender annual plants, with finely cut pale-green leaves and terminal panicles of elegant flowers.

Schizanthus pinnatus,—Pinnate-leaved Schizanthus,—is one of the most common species, from which a number of beautiful and improved seedlings have been produced.

All the varieties are very pretty in the open ground, and bloom most of the season, but are much injured by the sun or severe rains. They can only be brought to the highest state of perfection when grown in pots in the green-house, where they can be made to attain the height of three or four feet,—in the open ground about two feet; from August to October. The varieties are *humilis*, *porrigens*, *retusus*, *Hookerii*, *Priestii* and *Grahamii*.

SCHIZOPETALON.

Schizopetalon Walkeri.—Walker's Schizopetalon.—This is a singular plant, about one foot high, with curious white flowers; the segments of the corolla are finely cut into many feathery divisions. The flowers are very frail, being soon spoiled by the sun.

This remarkable plant is a native of Chili, whence it was originally introduced by the late Mr. Walker, in 1821. It is a hardy annual, thriving best in a light, sandy soil, and is increased by seeds, which it however perfects but sparingly, and that only in dry and warm summers. To hasten their growth, and thereby insure the maturing of seeds, the young plants should be raised in a frame, and planted out in a sunny border about the middle of May.

The flowers are very fragrant, especially in the evening.

SPHÆNOGYNE.

Sphænogyne speciosa. — This is a most beautiful flowering annual, growing about a foot high. The plant is of handsome foliage, and a most profuse bloomer. The flowers open fully when the sun shines upon them, and then display a show of the most pleasing kind. It is in bloom from June to October. A bed of it would be a delightful contrast to one of an opposite color. It has some resemblance to the *Calliopsis*; rays, yellow; disk dark-brown; flowers about two and a half inches across.

SENECIO.

Senecio elegans. — Ragwort, or Double Groundsel. — There are four kinds of this plant, viz., double red, double crimson, double white and double flesh-colored. Each of these kinds will make a most handsome bed. The plant is very pretty in its foliage, grows freely and most profusely; scarcely anything surpassing it for a neat and handsome show. It will grow about eighteen inches high, and continue in bloom from June to the end of the season. The soil I grow it in very successfully is fresh loam, mixed with leaf mould, and about eight inches deep, upon a dry subsoil. I find that when the soil is much enriched, the plant has a tendency to produce too much foliage; but, grown in turf, loam, &c., as above stated, an amazing production of bloom is the result. The plant is readily increased by slips, scarcely one in a hundred failing to grow. It is also raised from seed; but few of the plants will produce double flowers.

SILENE.

Catch-Fly.

This is a large family of plants, many of them mere weeds, while others are handsome flowers, suitable for the garden.

Silene armeria. — Lobel's Catch-fly. — A very hardy annual, with dense umbels of pink, and another variety with white flowers, from June to October ; one and a half foot high.

Silene compacta. — Compact-flowered. — Another beautiful species similar to the last, except the flowers are more crowded in the umbel.

Silene pendula. — Pendulous-flowered. — A dwarf, bushy habit ; pink flowers, from June to September.

Having the plants once in the ground, there will always be a plenty of self-sown seeds in the spring.



TAGETES.

Marigold.

Tagetes patula. — French Marigold. — A well-known tender annual ; one of the old-fashioned flowers ; deservedly popular, from the brilliancy and variegation of its flowers.

Some of the improved varieties are exceedingly beautiful, particularly the fine variegated sorts, of a rich velvety brown and yellow, distinctly striped or shaded with brown on yellow ground. All the varieties of this and the following species are prone to degenerate, even when the seed is saved from the most perfect flowers ; great care must therefore be taken to pull up every plant with single or inferior flowers as soon as it appears.

Tagetes erecta. — African Marigold. — The large double varieties of this species are very rich. The colors from a pale citron-yellow to deep orange.

There are also varieties intermediate between *T. patula* and this species, which are also very fine. The seed may be sown any time in May. The plants should be transplanted, when large enough, into patches of five or six plants each ; all inferior sorts should be pulled up as soon as the flowers appear ; one plant being sufficient for one place, which, if tied up to a stick and

trimmed occasionally, will give good satisfaction; flowering from July till the frost kills it in autumn.

THUNBERGIA.

Thunbergia alata. — Winged-petioled Thunbergia. — Handsome climbing green-house perennial, but succeeds well as an annual, from seed sown in the open ground the last of May, growing five or six feet high, with numerous buff-colored flowers, with dark throat, from July to October.

Thunbergia alata, var. *alba*. — White-flowered, winged-petioled Thunbergia. — This is a very showy variety of *T. alata*, differing in no respect except color. The plant is highly ornamental, and, being easily multiplied by cuttings, it has already become common. Like the other variety it is often treated as a stove plant, but it succeeds better in the conservatory or greenhouse, and, if planted in a warm, sunny border, it will grow and blossom freely during the summer months. A soil composed of peat and loam is that which suits it best.

The genus was dedicated by the younger Linnæus to his friend and successor, Thunberg, an indefatigable botanical traveller.

Thunbergia alata, var. *aurantica*. — Orange-flowered. — This is another beautiful variety, requiring the same treatment. Plants forwarded in pots, in a frame, succeed better than those sown in the open ground. There are other improved varieties, all fine. The plants throw out many lateral branches, and will require training to a trellis or frame-work.

TROPÆOLUM.

Nasturtium — Indian Cress.

Tropæolum, from *tropæum*, a trophy. — The leaf resembles a buckler, and the flower an empty helmet, of which trophies were formed.

Tropæolum peregrinum. — Canary Bird flower. — This is a beautiful climber, known as the Canary Bird flower. The charming little canary-colored blossoms, when half expanded, have a pretty and fanciful likeness to little birds. The plant, like the type of the genus, has a fine, luxuriant, rambling character. It succeeds best in a light soil. If the seeds are planted in April or May, by the side of a trellis or arbor, they will soon cover considerable space, and produce its curious, lively flowers from July till the severe frosts of autumn destroy it. In rich, heavy soil it runs very much to vine, and produces its flowers very sparingly. The foliage is similar to the common species, but much more delicate.

Tropæolum majus. — Nasturtium. — This is a well known ornamental annual, of easy cultivation. It flowers best in a light soil. It looks well trained to a trellis, or over a wall. The flowers are rich orange, shaded with crimson and various colors; the variety with crimson or blood-colored flowers makes a fine contrast with the orange. The seeds are used as a substitute for capers, and the flowers sometimes eaten as salads.



VERBENA.

Loudon says, it is a genus of weedy plants, which was in fact the case before the introduction of *Verbena chamædrifolia*, with the exception of the *Verbena aubletia*, and *Lambertii*.

Verbena chamædrifolia, Germander-leaved. — Synonym. *V. Melindres*, Scarlet-flowered Vervain. — This plant is a native of Buenos Ayres, growing through a very extensive tract of country. The dazzling, brilliant, scarlet flowers cannot be exceeded by any other plant yet introduced into this country; and blooming from May to November, in the open air, with us, makes it one of the most desirable plants in cultivation.

From the above species have been raised innumerable splendid varieties, of every color and tint, excepting yellow and blue. Some varieties are of a bluish-purple, ruby-purple, lilac and

dark-purple, rose, scarlet, crimson, white, white with red eye, scarlet with purple eye, rosy with red eye, shaded, striped, &c.; in fact, every shade of the colors named. The habits of all are similar, naturally prostrate creeping plants, taking root freely wherever the stems come in contact with the ground, and sending forth innumerable clusters of their many-hued, brilliant flowers from May to November.

It is kept with difficulty through the winter, except in rooms or in the green-house. In the cellar the roots soon perish; nor are any of them quite hardy enough to stand the winter.

They are all so easily raised from cuttings that they can be obtained at any green-house, for about two dollars a dozen for small plants, which, when turned into the ground in June, soon make large plants, and by October will be three feet across. They continue to flower after severe frosts, and are among the last lingering flowers of autumn.

They flower from seed sown in the open ground, in May, the same season, commencing their bloom in August. Seedling plants produce seed in abundance, but those that have been a long time propagated from cuttings lose that power in a great measure. There is no end to the variety from seedling plants. To have them come early in flower, the seed may be brought forward in the frame. No plant equals the Verbena for masses, particularly when grown in beds cut out on lawns, as the brilliancy of the flowers contrasts finely with the green grass.

VIOLA.

Viola tricolor has already been treated of as a biennial or perennial; it may also be considered as an annual, as it flowers finely the first year. — See page 157.

ZERANTHEMUM.

Zeranthemum, from Greek words signifying *dry* and *a flower*, on account of the dry nature of the leaves of the calyx, which retain their color and form for many years.

Zeranthemum annum, — Purple Everlasting, — and a variety with white flowers, are popular border annuals, of easy culture in light, rich soil. Like the *Helichrysums*, they are valued for their properties of retaining their colors and form, when gathered and dried, and much prized in forming winter bouquets for vases, &c.

ZINNIA.

Handsome border annual plants, requiring the same cultivation as the Marigold.

Zinnia elegans, with its varieties, are all handsome flowering plants; in bloom from July to October; two or three feet high. The colors of some of the varieties are very brilliant, and particularly the scarlets. The colors are white, pale to dark yellow, orange to scarlet; shades from rose to crimson, from crimson to light purple, lilac, &c. The flowers are handsome when it first commences the process of blooming; the central, or disk part of it, which contains the florets, as they begin to form seed, assume a conic shape, and a brown, husky appearance, which gives the flower a coarse, unsightly look.

DESCRIPTIVE LIST OF HARDY SHRUBS AND LOW TREES,
SUITABLE FOR THE SHRUBBERY.

ÆSCULUS.

Horse Chestnut.

THE common Horse Chestnut is a well known ornamental tree, of rapid growth; beautiful when in blossom, it being covered with spikes of delicate white or pink flowers, which are produced from its elegant digitate leaves.

There are some of the species which make a beautiful show in shrubberies, when in flower in the spring. They flourish in any soil and situation. The *Æ. discolor* seldom grows above six feet high, and, therefore, will stand pretty forward. *Æ. carnea*, from sixteen to twenty feet. *Æ. rubicunda*, from ten to twelve; and *Æ. pavia*, from six to eight. The different sorts are easily propagated by grafting, and may all be united on the common kind. No plants are better calculated for shrubberies; for, although they are deciduous, the variation in foliage from the ordinary shrubs has a charming effect.

ACUBA.

Acuba japonica. — Gold-Dust Tree. — This is an evergreen shrub, having large, handsome foliage, with golden spots or blotches. In this climate it is somewhat tender, particularly when young.

AMORPHA.

Indigo Shrub.

Amorpha, from Greek words denoting the deformity of the corolla.

Amorpha fuficosa. — Bastard Indigo. — This shrub is a native of South Carolina, and once used in that State as an indigo plant, but now neglected. It is an ornamental shrub, about six feet high, with spikes of purplish flowers in July. It is of easy cultivation, and propagated by seeds or cuttings.

AMELANCHIER.

Shad Bush.

This is a genus of ornamental shrubs, or small trees, of which one or two species are conspicuous ornaments of our woods and swamps in May. Mr. Emerson, in his "Trees of Massachusetts," says, that "There are two remarkable distinct varieties of *A. canadensis*, or Swamp Pyrus, of Torrey and Gray, found in Massachusetts. Both are called the Shad Bush, from flowering when the shad begin to ascend the streams. The first is called,

"*A. botryapium*, — or June Berry. — This is a small, graceful tree, from fifteen to twenty feet high, with a few slender, distant branches, usually growing in upland woods. It has large white flowers, in pendulous racemes, expanding about the first of May, or a little later, according to the season, just as the leaves are beginning to open, with small, purple or faint crimson bracts at the base of the partial flower-stalks, and often near the flowers. The union of the crimson or purple of the scales and stipules with the pure white flowers, and the glossy, silken, scattering pairs of the opening leaves, give delicate beauty to this early, welcome promise of the woods.

"*A. ovalis*. — Swamp Sugar Pear. — This is a smaller tree

than the preceding, but sometimes rises twelve or fifteen feet high. It is usually, however, a shrub."

The general appearance of both is similar, but it appears that there are botanical distinctions sufficient to arrange them in two species. They are deserving a place in every shrubbery.

A. sanguinea, — or Scarlet-wooded Amelanchier, — bears a strong resemblance to the Snowy Mespilus, and is very ornamental. It seldom grows over four feet.

A. florida. — This species bears a good deal of resemblance to the *sanguinea*, except in the racemes of flowers, which are produced after the manner of the bird-cherry.



AMYGDALUS.

Amygdalus, — the Greek name for the Almond. The species are fruit-trees, or ornamental trees and shrubs, much esteemed for the gay color and early appearance of their flowers.

A. Persica plena, — Double-flowering Peach, — is very beautiful in the shrubbery. The flowers are large and full, like small roses. There is a white and pink variety. Unless the trees are kept headed down, or pruned in well, they become straggling and unsightly. Particular attention should therefore be paid to this point.

A. pumila plena. — Double Dwarf Almond. — This is a beautiful dwarf shrub, loaded in the spring with its elegant flowers, resembling small roses. It is not inferior to any shrub whatever, when in blossom, and makes a fine appearance in the shrubbery; easily propagated by suckers.

A most beautiful way of growing it is by budding it upon the plum stock. In this way it is much more hardy than when grown on its own roots. Thus a magnificent head may be formed, at any distance from the ground that may be desired. The Double Peach may also be budded on plum

stocks, and, properly pruned, will make a great show when in flower.

AMPELOPSIS.

Virginian Creeper.

Ampelopsis quinquefolia. — American Woodbine. — “This is the most ornamental plant of its genus. It recommends itself by its hardiness, the rapidity of its growth, and the luxuriance and beauty of its foliage. It is a native of our woods, and climbs rocks and trees to a great height. In cultivation it is often made to cover walls of houses, forty or fifty feet high, clinging by rootlets which proceed from its tendrils. The flower is of a reddish-green, and not showy, which is succeeded by clusters of dark-blue, nearly black, berries when mature. At the same period the fruit-stalks and tendrils assume a rich crimson or red color.

“The great variety of rich colors, shades of scarlet, crimson, and purple, which the leaves and stems of this plant assume, and the situations in which we see it, climbing up the trunks and spreading along the branches of trees, covering walls and heaps of stones, forming natural festoons from tree to tree, or trained on the sides and along the piazzas of dwelling-houses, make it one of the conspicuous ornaments of the autumnal months. Often, in October, it may be seen mingling its scarlet and orange leaves, thirty or forty feet from the ground, with the green leaves of the still unchanged tree on which it climbed.” — (*Emerson.*)

This luxuriant climber is easily propagated by layers and cuttings. It flourishes best in a rich, moist soil.

Examples of the surprising luxuriance of this plant may be seen on a number of dwelling houses in Beacon street, Boston, and on many other buildings in that city.

ANDROMEDA.

Andromeda. — Named in allusion to the virgin, Andromeda, who, like this plant, was confined in a marsh, and surrounded by the monsters of the water.

The species are neat plants, and some of them considerable shrubs; all requiring a moist situation and peat earth.

A. polifolia. — Water Andromeda. — This beautiful little shrub is from twelve to eighteen inches high, found in wet, mossy bogs, in various parts of the state, and to the extreme north of this continent. The flowers are red before they open, but, when fully expanded, of a rosy hue. It flowers in June.

There are a great number of North American species, which might be introduced into the shrubbery with good effect. Most of them are dwarfs, and succeed well with the same treatment that is given to the Azalea.

A. speciosa and all its varieties are very beautiful, and flower in great profusion, and continue in leaf nearly the whole year, although they are not, strictly, evergreen shrubs. They grow about three feet high.

They are all propagated by seed, layers, or cuttings.



ARISTOLOCHIA.

Birth-wort.

Aristolochia sipho. — Pipe Vine. — A singular climbing plant, with handsome, broad foliage, with brownish purple, and very curious, somewhat pipe-shaped flowers. It grows fifteen or twenty feet high; blooms in June and July; propagated from layers and cuttings. It flourishes in any good, strong soil.



AZALEA.

This is a genus of highly ornamental shrubs, of which many species are indigenous.

The only species common in the vicinity of Boston is *A. viscosa*, which may be found in abundance among the brush-wood in low grounds, and is much admired for the fragrance of its flowers, which are produced in terminal, umbel-like corymbs; mostly pure white, but sometimes varying to blush or variegated; hairy and glutinous on the outside; stamens longer than the corolla, which in all the species is bell or funnel form, terminating in five unequal segments.

As we advance further into the interior, thirty or forty miles, the beautiful *A. nudiflora* occasionally presents itself to the enraptured traveller, tempting him for a while to forget the objects of his journey, and admire the elegance and fragrance of its flowers. This, as well as *A. viscosa*, is called by the country people Swamp Pink, probably on account of the odor of the flowers, which has some resemblance to the Garden Pink. By them they are eagerly sought after, and form a conspicuous part of the decoration of the mantel-piece, in its season, the month of June. The color is commonly a fine pink, varying to a deep red, which is rare. Their beauty is much increased by the length of the thread-like stamens, being much longer than the corolla, which is naked or destitute of a calyx, from which its specific name is given, *nudiflora*, or naked-flowered.

There are as many as a dozen indigenous species, besides many varieties to be found in different parts of our country; all handsome, and worthy the attention of the florist.

"The *Azalea* is a well-known plant throughout Belgium, and forms one of the most splendid decorations of the flower-garden. It is generally considered to be the most beautiful genus of the flowering shrubs. The neat form and bushy growth, the vast profusion of its flowers, the extensive variety and splendor of colors in the flowers, their appearance at a season when few other flowers are in bloom, and the little trouble which the plant requires when grown in a suitable soil and a good situation, all combine to cause the plant to be much

admired, sought after, and introduced into nearly every pleasure-ground in Belgium.

"The varieties of this handsome genus are very numerous, and have been raised in a short period. Twenty years since, there were only a very few moderate species, having small, insignificant flowers." Now there are many varieties, with brilliant flowers, in large clusters, continuing through the month of June. The colors are white, yellow, orange, scarlet, and pink, with every intermediate shade.

Notwithstanding the exceeding beauty of this tribe of shrubs, and their perfect hardiness, they are rarely to be seen in our gardens.

Azaleas require a moist, peaty soil, or black, sandy loam, and rather shady situation. Plants may be freely raised from seed, or from layers and suckers.

If taken from the woods, the best way is to cut them off close to the ground. They will throw up numerous shoots, and form fine healthy plants.

BERBERIS.

Barberry.

Many of the species are cultivated in the gardens of Europe, on account of the beauty of their fruit, flowers, or foliage.

Some few species are known among us, but none prettier than our common Barberry, or *Berberis vulgaris*. This shrub is too common in the vicinity of Boston; but where it is not found growing in such profusion, it will most assuredly be found a valuable addition to the shrubbery.

"Every one who is an observer of nature, must have been struck, in June, with the beauty of the arching, upper shoots of the barberry, springing from a mass of rich green, and sustaining numerous, pendent racemes of splendid yellow flowers. It is hardly less attractive when its blossoms have been suc-

ceeded by clusters of scarlet fruit. The Barberry is a bush usually four or five, but often seven or eight, feet high."

It has often been said, and very generally believed, that Barberry bushes were prejudicial to rye, causing it to blast; but this has not been our experience, having grown heavy crops of rye in fields with Barberry bushes on all sides of it.

B. dulcis is more dwarf in its habits, the foliage more delicate, and almost evergreen; the flowers dark-orange, scattered along the branches, among the foliage. It is a very pretty plant, and makes a handsome hedge. All the species are easily propagated by suckers.



BIGNONIA.

Trumpet Flower.

The species are trees or shrubs, inhabitants of hot climates. The flowers are produced in panicles, and are large, handsome, and of various colors. The hardy species will grow in almost any good soil, and easily propagated by layers or cuttings of the root.

Bignonia radicans. — Scarlet Trumpet Flower. — This is a magnificent climbing plant, producing large, trumpet-shaped, orange-scarlet flowers, of great beauty, from July to October. They are produced in clusters; handsome in bud, as well as when fully expanded, which, when contrasted with the elegant glossy, pinnate foliage, presents a most splendid sight when trained to a pillar or trellis.

The plant is a little tender in some locations, and will do best to be laid down and covered over, or secured with straw or mats.

This is the only species generally cultivated, in this neighborhood, in the open air. *B. grandiflora* will succeed in a more southern climate, and perhaps at the north with some protection.

BUXUS.

Box.

Buxus sempervirens. — Garden Box. — This is a delicate shrub, which may be pruned to any shape to please the fancy. It is an evergreen, and easily propagated by cuttings. It is in general use, and the best material for forming edgings to beds, walks, &c. Plants may be trained singly into almost any shape, and will make large shrubs, in some locations. It is necessary to plant Box for shrubs in a shady place, which will generally require to be matted in the winter. There are varieties with yellow and white striped leaves, called the gold and silver striped. There are a number of species, among which are the Dwarf and Tree Box. The last kind is suitable for the shrubbery, as it will grow and thrive well under the drip of trees.

CATALPA.

Catalpa syringifolia. — This is a North American shrub, or tree, from the south-west and south. It has large, handsome, white, variegated flowers, in clusters, in July, that are succeeded by long seed-vessels, having some resemblance to bean-pods. The leaves are large and luxuriant, coming out very late. If planted in a warm, sheltered place, it will flower finely when it has become ten or twelve feet high, although its ordinary height is twenty feet or more. It makes a vigorous, succulent growth, which is very often winter-killed. The tree is not very regular in its growth, but, when planted among other trees, or shrubs, it makes a fine appearance.

CALYCANTHUS.

All this genus are natives of North America. They are very easy of culture, growing freely in peat or loam, or both,

mixed. The flowers are dark-brown color, and very fragrant, resembling the odor of ripe melons. The wood is also very fragrant.

Calycanthus florida. — Carolina Allspice. — This is a well-known species, from three to five feet high, flowering from June to August. There are also a number of other species, but all nearly resemble the last, except in height and the style of the leaves. *C. fertilis* has glaucous leaves; *C. lævigatus* smooth leaves; both about three feet high; all easily propagated from suckers or layers.



CAPRIFOLIUM.

Honeysuckle.

A beautiful genus, of well-known climbing shrubs, growing from fifteen to twenty feet high, some of them producing their flowers in succession through all the summer and autumnal months. They are all valuable for pillars, arbors, trellises, &c.

Many of the species are natives of North America; among them is the splendid Scarlet Trumpet Honeysuckle, a native of the Southern States, but found to be hardy here, and in general cultivation. Its trumpet-shaped flowers are produced in clusters, of a rich scarlet without, and orange within; in bloom from June to October.

Caprifolium flavum. — Yellow Trumpet Monthly Honeysuckle. — This is also a native of the South, but long cultivated in Europe, and from thence introduced here. This continues to bloom all the season.

C. sempervirens. — Evergreen Scarlet Monthly Honeysuckle. — This is also a native of North America, perfectly hardy here; the foliage is evergreen; the flowers trumpet-shaped, of a rich scarlet without, tinged with orange within. The plant grows rapidly, throws out a multitude of branches, and has a singularly rich appearance, from the deep-green of its leaves and the splendor of its scarlet flowers.

C. hirsuta. — Hairy Honeysuckle. — This is a native of Massachusetts, found on damp, rocky banks, often growing to the height of fifteen to thirty feet; the flowers are of a pale-yellow without, hairy, and of a rich orange within; flowers, June and July.

C. periclymenum. — Woodbine. — This is a vigorous-growing English species; flowers pale-yellow, in June; highly fragrant.

The variety *belgicum*, or Dutch Sweet-scented Honeysuckle, is a well-known fragrant climber, giving a profusion of bloom in June, which emits a delightful odor to all the neighborhood; flowers yellow, variegated with red or purple.

The Dutch Monthly Sweet-scented Honeysuckle is another variety, with flowers somewhat like the last, but are produced in succession through the summer and autumn, until hard frosts. The buds, before they expand, are of a dark-red, or purple. When the flower opens, the interior is pure white, which changes to a cream color, and from that to an orange, giving the cluster a variegated and rich appearance. A variety has oak-shaped leaves.

C. flexuosum, or Chinese Honeysuckle. — A very desirable variety, with evergreen leaves, and delicate flowers through the season; stem flexuous and twining. Like many others of the Chinese plants, it readily supports the rigor of our winters, and, blooming with an exhaustless profusion, presents, from May till late in autumn, rich wreaths of flowers, various in tint, and of an exquisite orange-flower perfume.

The buds are purple; as they expand, the spotless white of its gaping corolla is exhibited, with its protruding stamens tipped with yellow anthers. On exposure to the air, the flowers gradually assume a cream-like tint, and, finally, a perfect orange color; and, as they mature in succession from the base to the extremity of the branch, the colors are all present on the same shoot. The stems and nerves of the leaves are purple; it is nearly evergreen. In rich loam, the growth is luxuriant.

Some beautiful varieties of the Scarlet Trumpet Honeysuckle were imported by us a few years since, that have given great satisfaction. One of the finest is *C. floribunda*, having clusters of large, trumpet-shaped, orange-scarlet flowers, yellow inside.

The White Italian Honeysuckle has pale-yellow, almost white, flowers. There are many other fine varieties and species of this beautiful tribe, but not much known.

CEANOTHUS.

Ceanothus Americanus.—New Jersey Tea.—A delicate, flowering, native shrub; a low and bulby plant, flowering in June and July, from one to three feet high, found growing on the margin of woods, in dry, sandy soil. The minute white flowers are crowded in clusters, and are very pretty. The leaves have been used as a substitute for tea.

CELASTRUS.

Celastrus scandens.—Wax-work. Climbing Staff.—A strong, woody vine, twining around small trees, and over rocks and bushes, growing in moist situations and beside stone walls; very ornamental when in fruit. This native climber should be introduced into every garden, for the covering of arbors, walls, or trellis-work, or to be trained to a pillar in the shrubbery.

The foliage is handsome, of a deep-green. The flowers are white, in panicle clusters, and not remarkable for show. The fruit or berries very ornamental. The fruit is a berry, enclosed in a round, three-valved capsule, as a walnut is enclosed in the hull. When the fruit is ripe, the valves, or hulls, turn backward, without falling off, and disclose a berry, of a deep-scarlet, finely contrasted with the orange color of the valves.

It is a very vigorous climber, and will grow from fifteen to

twenty feet high. The stem is very slender, rarely more than an inch thick.

CLEMATIS.

Many of the *Clematis* are shrubby plants, but have all been noticed among the herbaceous tribe.

CERASUS.

Cherry.

The scientific name is derived from a town on the Black Sea, from whence this tree was supposed to be introduced. A few species, with numerous varieties, produce valuable fruits, while nearly all are remarkable for the abundance of their early flowers.

The Double-flowering Cherry, *Cerasus communis plena*, is a very desirable addition to the shrubbery, on account of its immense number of large, double, pure white flowers, which cover the tree in the early part of May. The flowers are like small white roses, very full and beautiful. By proper training, it can be kept in a low, shrubby state, if desirable. It will grow in any garden soil, and is propagated by budding or grafting.

The Weeping Cherry is formed by budding a delicate drooping species of Bird Cherry upon the Mazard stock, at any height that may suit the fancy. By inserting a number of buds, at the desired height, a large drooping head may be formed, which continues to increase in diameter, but not much in height. Its pendent branches, covered with delicate foliage, are at all times a pleasant sight, but more particularly when covered with its profusion of bloom.

A number of indigenous species might be introduced into the shrubbery, or pleasure-ground, with good effect.

Cerasus Virginiana. — Choke Cherry. — This is an ornamental shrub, interesting, whether in flower or fruit. It grows

from two to fifteen feet high. In May it is covered with a profusion of white flowers, in dense racemes, and in July and August the branches are bent down with a profusion of fruit.

C. Pennsylvanica. — The Northern Red Cherry. — This is a small, slender tree, with delicate foliage, and handsome white flowers. The fruit is deep-red, and not very abundant.

C. scrotina. — The Black Cherry. — This is a well-known tree, handsome in flower and fruit. In the shrubbery, it should be planted in the background. The only drawback to the beauty of this tree, is, that it is peculiarly subject to the ravages of the caterpillar. They are sure to make this tree their favorite home; and, unless special pains is taken to dislodge them early in the season, the tree, for ornamental purposes, is utterly spoiled.



CERCIS.

Cercis canadensis. — Judas Tree — Red Bud. — This is a curious shrub, or low tree, indigenous to the southern part of the United States; often seen in large collections of plants, in gardens in New England. It is curious, from being covered with bunches of flowers, of a rose color, before the leaves begin to appear. They give a brilliant appearance to the whole tree, except at the extremities of the branches.

The Red Bud is beautiful in the spring, and not without interest, in full foliage, in the summer.



CHIONANTHUS.

Chionanthus Virginica, or Fringe Tree. — This is a fine deciduous shrub, or small tree, sometimes growing twenty feet or more high, but flowering when six or eight feet high. It has large leaves, six or eight inches long, and from two to three inches wide; the flowers white, in numerous long bunches, and have a fringe-like appearance. It is a native of North Amer-



ica, and found growing upon the mountains at the South, and is very hardy. A light loam suits it well, but propagation is difficult. It succeeds when budded or grafted on the ash.

CLETHRA.

This genus is composed mostly of American plants, and succeeds well when transplanted to the shrubbery.

Clethra alnifolia. — Alder-leaved Clethra. — A shrub, from two to eight feet high, showing a long spike of white fragrant flowers, towards the end of summer. It is generally found abundantly in wet, boggy places, and by the side of sluggish streams. Emerson says: "This beautiful plant may be easily cultivated, and is much improved by cultivation, the spikes being increased in length, and in the size of the flowers. It grows readily in any garden soil, and may be propagated by layers or cuttings."

COLUTEA.

Bladder Senna.

Colutea, an ancient name of a bush with sweet-scented flowers. The genus includes a number of species of shrubs, with yellow or orange, pea-shaped flowers, which are succeeded by seed-vessels like bladders.

C. arborescens grows about ten feet high, with yellow flowers, in June and July. *C. cruenta*, four feet high, with reddish flowers; and *C. Pocockii*, with dark-yellow flowers. All are free growers, and well adapted to introduce into extensive shrubberies.

CORNUS.

Cornel — *Dogwood*.

Cornus, from *cornu*, a horn; the wood being thought to be as hard and durable as horn. The larger species of this genus



are very ornamental and hardy shrubs, mostly North American plants, and are prized, not only for their flowers and berries of different colors, but for their green, red, purple, or striped barks, which have a fine effect in winter, especially among ever-greens.

Cornus alternifolia. — Alternate-leaved Cornel. — “A beautiful shrub, six or eight feet high; sometimes a graceful small tree, of fifteen, twenty, or even twenty-five feet high, throwing off, at one or more points, several branches, which, slightly ascending, diverge, and form nearly horizontal umbrageous stages, or flats of leaves, so closely arranged as to give almost a perfect shade. Recent shoots, of a shining light-yellowish-green, with oblong scattered dots. The older branches, of a rich polished green, striped with gray. Flowers in an irregularly branched head, yellowish-white; fruit, blue-black. A beautiful plant, with a variety of character. It grows naturally in most woods, or on the sides of hills; but, when cultivated, flourishes in almost any kind of soil, and even in dry situations. It flowers in May and June, and the fruit ripens in October.”

C. florida. — The Flowering Dogwood. — This species is more of a tree than any of those described, and one of the most desirable of all the genus. It is a conspicuous object, in some of our woods, the last of May. The tree is then loaded with a profusion of its large, showy, white flowers, which are produced at the ends of the branches. What is generally taken for the flower is not in reality such. The flowers are small, and without much interest, except to the botanist. Twelve or more of them are clustered together in a head, and surrounded by a whorl of four large white floral leaves, which constitutes the principal beauty of the flower. These floral leaves are nerved, somewhat heart-shaped, shaded with flesh color, or purple; the fruit is of a bright-scarlet.

“The leaves early begin to change to purple, and turn to a rich scarlet, or crimson, above, with a light-russet beneath; or to crimson and buff, or orange ground, above, with a glaucous-

purple beneath. These, surrounding the scarlet bunches of berries, make the tree as beautiful an object, at the close of autumn, as it was in the opening summer."

C. circinata. — Round-leaved Cornel. — "A spreading shrub, usually not erect, from four to six, sometimes eight or ten, feet high, with straight, slender, spreading branches. Young shoots, green, profusely blotched with purple; old shoots, pale, yellowish-green, or purplish, thickly dotted with prominent, wart-like dots, or sometimes smooth." The flowers white, in roundish, spreading, terminal heads, or cymes, in May; fruit blue, turning to whitish color; ripe in October.

C. stolonifera. — Red-stemmed Cornel. — "A handsome plant, conspicuous at all seasons of the year, but especially towards the end of winter, for its rich red, almost blood-colored stems and shoots. The main stem is usually prostrate upon the ground, beneath withered leaves, throwing down roots, and sending up slender, erect branches, from five to six or eight feet high; flowers white, in spreading cymose clusters; fruit white, or lead colored."

C. paniculata. — Panicked Cornel. — A shrub, about six feet high, with erect branches, dotted, or speckled. "The cymes, or heads of flowers, are very numerous, on long, slender, pale-yellow stems, with irregular branches." Flowers, white, in May and June, succeeded by white fruit, which matures in August and September, when the fruit-stalk is of a delicate pale-scarlet."

CRATÆGUS.

The Thorn.

In relation to this genus Mr. Emerson remarks:—"It is found that a greater variety of beautiful small trees and ornamental shrubs can be formed of the several species of Thorn, than of any kind of tree whatever. Thus they give persons, whose grounds are not extensive, the means of ornamenting

their grounds with great facility. If trained as trees, they have an appearance of singular neatness united with a good degree of vigor; and the readiness with which they are pruned and grafted renders them susceptible of almost any shape which the fancy of the owner would have them assume. Some of the species, native to Massachusetts, often take, even in a state of nature, the shape of handsome low trees. Of these, the flowers and foliage have great beauty, and the scarlet haws, which remain on into winter, till, ripened by frost, they are gathered by the birds, give them additional charms. Into these tall species all the others, very various, and many of them very beautiful, may be grafted; and not only thorns, but pears and other fruits, may be readily made to grow on the Thorn."

The four principal species, natives of our State, are,

Cratægus coccinea, Scarlet-fruited Thorn; *C. tomentosa*, the Pear-leaved Thorn; *C. crus-galli*, the Cockspur Thorn, and *C. punctata*, the Dotted-fruited Thorn;—all handsome, with white, fragrant flowers, in clusters.

C. oxyacantha is the common Hawthorn of England, which is also an ornamental shrub, as well as a very important one for the formation of hedges. Of this species there are a number of beautiful varieties, which should be in every collection, viz., *rosea*, with deep-red flowers; double-white and double-red, which are very beautiful, besides some others not so well known.



CYDONIA.

Japan Quince.

Cydonia Japonica, formerly *Pyrus Japonica*, is indigenous to Japan, and embraces two varieties, the scarlet and variegated flowering. When in bloom, there is no plant that equals it in splendor. The *Cydonia* may be seen budding and bursting into bloom in April. The flowers are in aggregated clusters, along the branches, interspersed with the young leaves. The

hue of the scarlet color is most brilliant, and no artist can find a tint that will convey an adequate idea of its splendor. The paler variety is also much admired. The flowers of this are of a fine blush, shaded with red, and, when contrasted with the other, forms an agreeable relief. The perfect hardiness of the shrub, and the brilliancy of the flowers, must ever render it an agreeable appendage to the shrubbery, lawn, or flower-garden. It is generally propagated by layering and by suckers. It succeeds in any good garden loam. It commences flowering when the plants are quite small. It grows from six to eight feet high. A writer says: "One of the most pleasing and picturesque objects we recollect ever to have seen, was a large *Cydonia*, whilst in full bloom, partially imbedded in a late snow; the branches weighed down thereby, and the rich, brilliant blossoms, peeping through their chaste covering."

CYTISUS.

Laburnum.

A genus of ornamental trees and shrubs, of which the Laburnums are generally well known as highly ornamental.

Cytisus laburnum. — Golden Chain. — A tall and elegant shrub, or low tree, which, when in bloom, is laden with long, pendulous clusters of golden pea-shaped flowers, similar in shape to those of the *Robinia*, or *Acacia*. It is exceedingly rich and beautiful when in bloom, the last of May and June; grows from ten to thirty feet high.

The Purple-flowering Laburnum, *C. purpurea*, has dull-purple flowers; grows three feet high.

C. leucanthus has cream-colored flowers; four feet high. The Golden Chain is the most desirable of all the species or varieties.

There are many other fine species and varieties, of which some of them are low shrubs; all ornamental.

DAPHNE.

Pink Mazereon.

Daphne mazereon is a handsome shrub; the flowers come out before the leaves, early in the spring; they grow in clusters, all round the shoots of the former year,

“ Though leafless, well attired, and thick beset
With blushing wreaths, investing every spray.”

The flowers are succeeded by brilliant-scarlet berries, which are said to be a powerful poison. Another variety, with white flowers, has yellow berries. This shrub is in bloom early in April. It is sweet-scented; and, where there are many together, they will perfume the air to a considerable distance. The best time for transplanting is in the autumn; because, as it begins to vegetate early in the spring, it should not then be disturbed. It thrives best in a dry soil; if it has too much wet, it becomes mossy, and stunted in growth, and produces fewer flowers.



DEUTZIA.

The genus was named by Thunberg, in compliment to John Deutz, one of the senators of Amsterdam, a patron of botany, and one of the promoters of the voyage of the former to Japan.

The genus is nearly related to *Philadelphus*. A very elegant shrub, native of Japan and China, and introduced from the latter country a few years ago, by Mr. Reeves, to whom our gardens are indebted for many other equally interesting plants from the same quarter. It is a plant of easy culture, being sufficiently hardy to endure our winters in the open air, and easily increased both by cuttings and layers.

During the early part of summer, the *Deutzia* is covered by a profusion of white blossoms, which are highly fragrant. The rough leaves of the plant, Thunberg informs us, are employed

by the Japanese cabinet-makers for polishing wood, in the manner that the stems of the *Equisetum hyemale* are with us.

DIERVILLA.

Diervilla trifida.—Three-flowered Bush Honeysuckle.—This is a pretty native shrub, from two to four feet high, with handsome opposite leaves, from the axils of which spring three yellow, honeysuckle-shaped flowers in July.

DIRCA.

Dirca palustris.—Leather Wood.—This is a much branched shrub, from three to six feet high, found in wet, marshy, and shady places. It is conspicuous, when in flower in April, for the number of yellow blossoms, which fade and fall rapidly as the leaves expand. The wood is very pliable, and the bark of singular toughness and tenacity. It has such strength that a man cannot pull apart so much as covers a branch of half or third of an inch in diameter. It is used for millers and others for thongs. The aborigines used it as a cordage.

ELÆAGNUS.

Oleaster.

Elæagnus, from the Greek, an olive; the tree having a striking resemblance to the olive tree. Shrubs, or small trees, ten or fifteen feet high.

E. angustifolia, and *E. argentea*, are shrubs or low trees, with elegant silvery foliage, their only recommendation.

EPIGÆA.

Ground Laurel.

The generic name is from Greek words, signifying *upon the earth*. The woody, hairy stems grow flat upon the ground, and throw out roots all the length of its branches.

Epigæa repens. — May Flower. — This beautiful, fragrant flower is found in many parts of the country, and is worthy of a place in the flower-garden; no doubt it will succeed well when grown among shrubs where it will be partially shaded. It is in flower in April. It produces delicate flesh-colored or white flowers, and sometimes is found with light-red blossoms. Mr. Emerson says: "It abounds in the edges of woods, about Plymouth, as elsewhere, and must have been the first flower to salute the storm-beaten crew of the Mayflower on the conclusion of their first terrible winter. Their descendants have thence piously derived the name, although its bloom is often past before the coming in of the month of May." The stems of the plant are several feet in length, generally covered with the fallen leaves. The flower-stems are thrown up at intervals of two or three inches, three or four inches high, producing flowers in crowded clusters. The flower-buds are formed in August. Leaves evergreen.



EUONYMUS.

Spindle Tree — Strawberry Tree.

Euonymus Americanus. — Burning Bush. — An elegant shrub, growing eight or ten feet high, producing rather inconspicuous purple flowers in clusters, which are succeeded by brilliant scarlet fruit, that remains after the foliage has fallen; highly ornamental. The foliage is handsome; the branches erect, of a fresh green color. There is a variety with purplish-

red berries, and another with white berries. Upon the opening of the valve which encloses the berry, the white variety show to great advantage, the valve being white, and the berry a light scarlet. The berries are produced in great profusion. Plants may be raised from seed, which should be planted in autumn; or by layers or cuttings.

E. Europæus.—The European Spindle Tree.—This is a handsome evergreen shrub, with deep shining-green leaves, with a variety having silver-edged leaves. The European species and varieties are somewhat tender in this latitude. They should be planted in a sheltered, shady place.



F A G U S.

Beech.

The Beech is a fine tree, suitable for ornamental pleasure-grounds, but too large for the shrubbery.

The Purple Beech is a European variety, propagated by grafting upon the common species. It is a small tree, but may be kept within bounds by pruning in, and is very desirable in a collection of shrubs, on account of its dark-purple, almost black, leaves. The younger leaves are purplish-crimson, and present a brilliant appearance during the bright sunshine. In summer the foliage loses its brilliant tints, the leaves changing to a purplish-green.

No collection of shrubs should be deficient of the Purple, or Copper Beech, as it is sometimes called. The contrast between this and most other shrubs is very marked. The Weeping Beech is another desirable variety; its drooping pendulous branches are very ornamental. Propagated in the same way as the other, either by budding, grafting, or inarching.

FRAXINUS.

Ash.

The Ash is a well-known valuable timber tree, and suitable for avenues, but not for the shrubbery, unless on a large scale.

The Weeping Ash, or *F. pendula*, is a variety of *F. excelsior*, first discovered in a field at Gamblingay, Cambridgeshire, England. This is propagated by grafting, or inarching upon the common Ash. It looks well in the shrubbery, but more particularly upon a lawn by itself; the branches will droop to the ground, and form a handsome weeping head. There are other varieties, with curled or variegated leaves, which are desirable in making up an extensive collection.

HALESIA.

Snow-drop Tree.

Halesia tetraptera. — Four-winged Halesia. — A native of Carolina, where it is found growing on the banks of rivers. It is an ornamental shrub, five or six feet high, valuable for its early flowering in May. The flower hangs in small bunches all along the branches, each bud producing from four to eight or nine; they appear before the leaves, and are of a snowy whiteness, and last for two or three weeks.

Halesia diptera. — Two-winged Silver Bell Tree. — This species is described in Downing's first volume of the Horticulturist as follows: — "The present species is a much rarer one than the last. Its native country is Georgia and Carolina, but it is hardy here, and is well entitled to a prominent place in the pleasure-grounds. It differs very strongly from the common species, in both the larger size and the purer white of the flowers, and also in foliage, which is twice as broad as that of the four-winged sorts. The seeds have, as the name indicates,

only two-winged appendages. Though this species is frequently advertised for sale, yet it is rarely found true to name. There are two or three fine specimens of the true *Halesia diptera* in the excellent nursery-grounds of Mr. William Reid, at Murray Hill, New York city, which have strongly excited our admiration whenever we have seen them in bloom. They blossom in June, three or four weeks later than *H. tetraptera*; the blossoms are large and numerous, and of a pure and snowy whiteness, and remain a good while in flower. Altogether, we consider the Two-winged Silver Bell as a hardy shrub of great beauty, and one that should be largely propagated, and introduced into every collection. It cannot be very difficult to obtain seeds from the South, and Mr. Reid informs us that this species ripens seeds in the open borders of his grounds."

HEDERA.

English Ivy.

Hedera helix. — Common Ivy. — The ancients held Ivy in great esteem, and Bacchus is represented as crowned with it to prevent intoxication. It is a highly esteemed ornamental evergreen climber, and much used in England for covering naked buildings or trees, or for training into fanciful shapes, or trained up a stake so as to form a standard.

In this country it is not very common, but it appears to succeed well in shady collections. There are some specimens in the city of Boston, which flourish finely upon the rough granite or brick walls of buildings. It is easily propagated by cuttings or layers. There are a number of varieties of this, of which all are desirable, growing to a great height, and attaching itself firmly to whatever it grows upon, without any assistance.

HIBISCUS.

Althæa frutex.

Hibiscus Syriacus. — The Althea is a well-known ornamental shrub, of easy cultivation ; but a little tender in some situations, particularly the double white variety. They grow freely from cuttings, from which the double varieties are multiplied ; or very easily from seed, for single varieties. We think some of the single varieties are equally handsome as the double, and generally more hardy. There is the double white, red, blue and white, with stripes, or blotches, and others.



ILEX.

The Holly.

Ilex, a name of unknown origin. In England, innumerable varieties have been raised from *Ilex aquifolium*, a low tree, or shrub, which vary in the margin and size, or in the variegation of the leaves. Being evergreens, they are highly esteemed for the shrubbery, for small groups, or for lawns, and make a gay appearance at all seasons of the year. The silver and gold-edged varieties are very beautiful. The common green prickly-leaved is used for hedges ; the only objection to it is its very slow growth.

Alas ! were it not for our changeable climate, we, too, might have this desirable family of plants in our shrubberies and borders. They do not succeed well in the New England States ; probably they may thrive in sheltered places, where not much exposed to the sun. They are worthy of many trials.

Ilex opaca. — The American Holly. — This species is found plentifully in some parts of Massachusetts. Mr. Emerson says of it : — “ The American Holly is a handsome, low tree, with nearly horizontal branches, and thorny, evergreen leaves. The berries are scarlet, and remain on the tree into the winter.

It flowers in June. It has considerable beauty, and is particularly valuable for retaining its bright green leaves through the year, and for its scarlet berries. The leaves are seldom touched by an insect. On these accounts it deserves cultivation as an ornamental tree. It has great resemblance to the European Holly, which makes the most durable hedge of any plant whatever, and one which is kept in repair, when once established, at the least expense. The objection to it is the slowness of its growth. Our tree is commonly found on a rather dry, sandy, or rocky soil, but will grow on almost any. The European is found to do best on a rich, sandy loam, in an open forest of oak. It is propagated by seeds, or plants taken from the woods. The seeds do not germinate for more than a year after sowing. They are, therefore, kept in moist earth for a year after gathering, after which they are sown at the depth of a quarter of an inch in firm soil. The surface should be protected from heat and drought by a covering of half-rotten leaves, or litter. When transplanted, they should be protected for a while from the heat of the sun. The best time for transplanting is early in the spring, before the plant has begun to shoot."

The same may be said of the seeds of the Thorn, and many others, as of the Holly. They will not vegetate till the second spring after maturing, and are prepared by exposing them to the action of the frost, by slightly covering with earth, thus remaining till they are to be sown in beds, or drills.

KALMIA.

A small genus of handsome evergreen indigenous shrubs. *Kalmia*, in honor of Peter Kalm, a pupil of Linnæus.

Kalmia latifolia.—Mountain Laurel, Spoon Wood, &c.—Among the shrubs that embellish the scenery of the interior of the country, this may be considered one of the most elegant. Its general height is from five to ten feet, but may sometimes be seen rising from fifteen to twenty feet, among the rocks

and thickets, almost impenetrable by its crooked and unyielding trunks, locked and entangled with each other. The leaves are about three or four inches long, evergreen, giving much life to the forests in the winter, by their deep shining-green. The flowers are disposed in large corymbs, at the extremity of the branches; numerous; of a pure white, blush, or a beautiful rose-color, and more rarely a deep red. The season of flowering is in the months of June and July. Nothing can exceed the magnificence of its appearance when in full bloom. The soil in which it best succeeds is soft, loose, and cool, with a northern exposure. The foliage is the richest when the plant is grown in the shade. The soil suitable for its growth is the same as recommended for the Azalea. Young plants, taken up with balls of earth attached, will succeed well in the garden, in the shade. Those from open pastures will flourish best, if such can be found. There is no shrub, foreign or native, that will exceed this in splendor, when well grown.

K. angustifolia. — Narrow-leaved Kalmia. — This is a low shrub, that covers large tracts of cold, moist land, in almost every section of the country. It is a great nuisance to the farmer, who looks suspiciously upon it, as it has the reputation of being poisonous to sheep and other animals, which, for the sake of variety or want of other food, sometimes feed upon it. Cobbett says: "The little dwarf brush stuff, that infests the plains of Long Island, is, under a fine Latin name, a choice green-house plant in England, selling for a dollar when no bigger than a handful of thyme." How large a handful he does not say. "When in bloom," he remarks, "it resembles a large bunch of Sweet William. It is so pretty, it is worth having in a green-house, where it would probably blow in April, on Long Island." Blooms in June and July; flowers red, or deep pink, and I have seen a white variety; leaves evergreen; grows from one to two feet high.

KERRIA.

Kerria Japonica, formerly *Corchorus Japonica*.—Japan Globe-flower.— This is an elegant shrub, growing three or four feet high, producing a profusion of double yellow globular flowers, from June to September. The branches are bright deep-green; the foliage handsome. It is a little tender in some locations, the tops being frequently killed down; but it sends up fresh shoots, which flower the same season. It is easily propagated by suckers.

LAURUS.

Laurus benzoin, or Fever Bush— or *Benzoin odoriferum*, Spice Bush.— “The Spice Bush is a shrub, from four to ten feet high, remarkable for its graceful form, and large, handsome leaves, particularly when found growing in the deep shade of a moist forest. Such a situation, where it seems most vigorous, is not favorable to the production of its flowers and fruit. In April, or the first part of May, clusters of from three to six flowers, of a greenish-yellow, on very short pedicels, appear from buds, distinct from the leaf-buds, in the axils of the last year's leaves. Fruit, a dark-red, or purple; drupe, (berry,) of an oval shape, in bunches from two to five. The stem is short and stout, not so long as the drupe. The plant derives its botanical name from its aromatic odor, resembling gum benzoin. This is to some persons always disagreeable.”

The proper soil for the Spice Bush is the same as that for the *Azalea*, *Rhododendron*, &c.

LAVENDULA.

Lavender.

Lavendula,—so named for its use in fomentations and baths.

Lavendula spicata. — Spike-flowered Lavender. — This is a most desirable dwarf shrub, with delicate glaucous foliage, with spikes of blue flowers, in July; three feet high. The whole plant is delightfully fragrant, but more particularly the flowers. These yield the oil from which the Lavender water is made. In some soils and situations the plant is tender. In cold, moist soil, it is almost sure to be winter-killed; but, in a dry, loamy, or gravelly soil, it endures our winters with but little protection. We have been successful in the cultivation of it in a soil of the latter quality, and, from the flowers that grew upon the edging of a circular bed, six feet in diameter, obtained more than one ounce of the pure Lavender, one drop of which would perfume a room. It is sometimes used for edgings, in milder climates, but grows too high for general use. As an edging for a bed of Moss Roses, we have seen it used with pleasing effect.

“The agreeable scent of Lavender is well known, since it is an old and still a common custom [in England, we suppose,] to scatter the flowers over linen, as some do rose leaves, for the sake of their sweet odor.”

“Pure Lavender, to lay in bridal gown.”

Lavender water, too, as it is usually called, although it is really spirit of wine scented with the oil of Lavender, is one of our most common perfumes. “The stalks of the Lavender, even when the flowers have been stripped away, have an agreeable scent, and, if burnt, will diffuse it powerfully and pleasantly. To a Londoner, it becomes a kind of rural pleasure to hear the cry of “Three bunches a penny, sweet Lavender!”

“And Lavender, whose spikes of azure bloom
Shall be erewhile in arid bundles bound,
To lurk amidst the labors of the loom,
And crown her kerchiefs clean with micke rare perfume.”

Lavender is easily propagated by cuttings, or slips. It is a great pity that it is not perfectly hardy; but as it is, with a little choice in its location, it is easily preserved through the

winter, and worthy of all the care and trouble that may be given to its cultivation.

LIGUSTRUM.

Privet.

Ligustrum vulgare.—The Common Privet, or Prim.—The Privet shrub is a native of Europe, and introduced from thence to this country, and now has become domesticated in many parts of New England. In England, the Privet is an evergreen, or the leaves remain until driven off by new ones. In this climate it is deciduous, shedding its leaves late in autumn. "In France and Great Britain, the Privet is much used for a hedge plant, either alone or with other plants. Its use for this purpose is recommended by the beauty of the foliage, the flowers and berries, by its rapid and easy growth, and by the fact that it grows well under the drip of other trees, except evergreens. It flourishes in almost any soil, as may be easily seen from the variety of ground on which it has sown itself in the vicinity of Boston; and it is propagated by seeds, or by cuttings, and requires very little pruning. It grows in clumps, from strong, matted, bright-yellow roots, in height six or eight feet. Flowers white, in short, terminal panicles, in June; the berries are of a shining black."—(*Emerson.*)

The Privet blossom has been frequently celebrated for its whiteness.

————— "The Privet, too,
Whose white flowers rival the first drifts of snow
On Grampia's piny hills."

The blossom of the Privet, when exposed to the noonday sun, withers almost as soon as blown. In the shade, it not only lasts longer, but is much larger. The leaves, too, are much larger and finer, when so placed.

LONICERA.

Tartarean Honeysuckle.

All the species of this genus are upright, ornamental shrubs, suitable for the shrubbery, of easy culture.

Lonicera Tartarica. — Tartarean Honeysuckle. — This species grows to the height of eight or ten feet, and is covered with a profusion of pink flowers, in June, which are succeeded by red berries. In foliage, flower, or fruit, this is a desirable shrub, and thrives in almost any soil and situation. There is a variety with white flowers and yellow berries. They are natives of Russia, and are propagated easily by cuttings, layers, and seeds.

L. Ledebourii is a new species, said to be very handsome. We imported a few plants last season. The foliage is handsome, and from the few flowers that appeared, it promises to be an important addition to our ornamental shrubs.



LYCIUM.

Lycium, — so called because the original species was a native of Lycia.

Lycium barbarum. — Willow-leaved Lycium. — This is an ornamental climbing shrub, valuable for covering arbors, naked walls, &c. It grows from four to six feet in a season. The foliage is delicate, and the whole plant is covered with small, but handsome, violet flowers, from May to August. It will grow in almost any soil, and is easily propagated from cuttings and from suckers. In the shrubbery, it may be permitted to ramble at its pleasure, or trained to suit the fancy.

MAGNOLIA.

"This genus, named for Magnol, a distinguished botanist in France, contains trees, except *M. glauca*, which, in the Northern States, is only a shrub; all of them beautiful, and some of them the finest and most splendid trees that are known.

"*Magnolia glauca*. — The most northern boundary of the habitation of this beautiful plant is supposed to be in a sheltered swamp, near Cape Ann, and not far from the sea.

"Few ornamental plants are better worth the attention of the gardener. Carefully trained, it forms a beautiful little tree. No plant is, at any season and in every condition, more beautiful. The flower, pure white, two or three inches broad, is as beautiful and almost as fragrant as the White Lily. The fruit is a cone, about two inches long, covered with scale-like, imbricated ovaries, from which, when mature, escape the scarlet obovate seeds, which, instead of falling at once to the ground, remain some time suspended by a slender thread. The bark of the young shoots is smooth and of a rich apple-green, afterwards becoming of a soft glaucous or whitish color. Before opening, the leaves are enclosed by the stipules, which, falling, leave rings encircling the branch; when young the leaves are covered with a pubescence, which, beneath, has a silken lustre." — (*Emerson*.)

Although naturally growing in wet ground, it will flourish in almost any good garden soil, if not exceedingly dry, particularly if partially shaded from the sun. It may be propagated by layers, — which require two years to root sufficiently, — or by seed, if great care is observed.

Magnolia acuminata. — Acuminate-leaved Magnolia. — This species attains the size of a large tree in a more southern climate. In the neighborhood of Boston there are handsome specimens of this magnificent tree, but not of a large size. The flowers are very conspicuous, being five or six inches across, of a bluish-white color, produced from May to July. The

foliage is very large. It produces cylindrical fruit, three or four inches long, with the scarlet seeds depending from it.

Magnolia auriculata. — Ear-leaved Magnolia. — This is a splendid tree, and does not grow to so large a size as the last, but more beautiful, for shape, foliage and flowers.

There are a number of species of this magnificent tribe, that succeed very well as far north as Massachusetts, in sheltered localities; but they are not to be depended upon where exposed to cold winds.

The Chinese Magnolias, according to Mr. Downing, are all hardy, except one, (*M. fuscata*,) in the latitude of Newburg, N. Y. Some of them we have seen flourishing in this vicinity, and probably all will succeed here.

He says: "They are certainly among the most striking and ornamental objects in our pleasure-grounds and shrubberies in the spring. Indeed, during the months of April and the early part of May, two of them, the White, or *Conspicua*, and Soulangé's Purple, or *Soulangiana*, eclipse every other floral object, whether tree or shrub, that the garden contains. Their numerous branches, thickly studded with large flowers, most classically shaped, with thick, kid-like petals, and rich, spicy odor, wear an aspect of novelty and beauty among the smaller blossoms of the more common trees and shrubs that blossom at that early time, and really fill the beholder with delight. The Chinese White Magnolia (*M. conspicua*) is, in effect of its blossoms, the most charming of all Magnolias. The flowers, in color a pure, creamy white, are produced in such abundance, that the tree, when pretty large, may be seen at a great distance.

"The Chinese name, *Gulan*, literally, *Lily-tree*, is an apt and expressive one, as the blossoms are not much unlike those of the White Lily in size and shape, when fully expanded. Among the Chinese poets, they are considered the emblem of candor and beauty."

Mr. Downing speaks of a tree, about twenty feet high, planted on the lawn in front of his house about fourteen years ago, on

which there were, the season previous, three thousand blossoms open upon it at once. "The branches spread over a space of fifteen feet in diameter, and the stem, near the ground, eight inches in diameter. Its growth highly symmetrical. For the last ten years it has never, in a single season, failed to produce a fine display of blossoms." He states, that its usual period of blossoming is from the fifth to the twenty-fifth of April. It is grafted on the Cucumber Tree, (*M. acuminata*,) which he supposes renders the tree more hardy and vigorous than it would be on its own stock or root.

"The next most ornamental Chinese Magnolia," he says, "is Soulange's Purple, (*Magnolia Soulangeana*.) This is a hybrid seedling, raised by the late Chevalier Soulange Bodin, the distinguished French horticulturist. The habit of the tree is closely similar to that of the *conspicua*; its blossoms, equally numerous, are rather larger, but the outside of the petals is finely tinged with purple. It partakes of the character of both its parents, having the growth of *Magnolia conspicua*, and the color of *M. purpurea*, (or, indeed, a lighter shade of purple.) Its term of blooming is, also, mid-way between that of these two species, being about a week later than that of the white, or *Gulan* Magnolia. It is also perfectly hardy in this latitude." The *Magnolia purpurea* is sometimes seen in large gardens about Boston, but is a little tender. "It is a shrub of six to eight feet high. The blossoms are white within, of a fine dark-lilac or purple on the outside, and quite fragrant, like the others." The flowers begin to open early in May, and continue blooming a number of weeks, or, if in the shade, through most of the summer. *M. gracilis* differs from the purple-flowering only in its more slender growth, and narrower leaves and petals.

The same gentleman remarks, that, "If these noble flowering trees have a defect, it is one which is inseparable from the early period at which they bloom, viz., that of having few or no leaves when the blossoms are in their full perfection;" and suggests, that the planting of the American Arbor Vitæ and

Hemlock, would remedy this defect, by forming a dark-green background, on which the beautiful masses of Magnolia flowers would appear to great advantage.

MAHONIA.

Mahonia aquifolium. — Ilex-leaved Mahonia. — This is an elegant evergreen shrub, three or four feet high, with clusters of yellow flowers, in May or June, succeeded by bunches of blue berries. The leaves are compound, with somewhat prickly points, very glossy green, inclining to purplish-brown, and, in those that are young, various shades of crimson and purple, giving the plant a very rich appearance. The foliage remains in perfection during the winter, where screened from the sun by trees, or covered with snow or straw. In autumn the foliage is very gay, as on the same plant there will be bright-green, purple, brown and crimson leaves.

PAULOWNIA.

Paulownia imperialis. — This is a magnificent tree, of recent introduction. To all appearances it will not grow to a very large size in our climate. As it is perfectly hardy it will be a rich addition to our collection for the shrubbery or lawn. We have not yet seen the flowers. We planted a number of trees three years since, which endured the two last winters to perfection. These trees were not pruned, but the branches were permitted to strike out near the ground for the purpose of layering. As they now appear, they would be ornamental in the shrubbery, even without bloom, on account of their showy foliage. Mr. Downing has given us a description of this tree, in the Horticulturist, and we will give his full and interesting description of it as we find it in vol. i., page 16 : —

"The striking peculiarity of the Paulownia, however, is its showy foliage. The leaves are the shape of those of the Catalpa, but of a darker green, perhaps resembling more closely those of a large Sun-flower — being broad and heart-shaped. In rich soil the growth of the tree is extremely rapid — young plants making shoots of eight or ten feet in a season, and on such we have measured leaves a foot and a half in diameter. But on older trees they are usually about half that size.

"The flowers are produced in April, in panicles, at the ends of the branches. They resemble in general appearance those of the Catalpa, but the color is a pale-bluish violet. The seeds are borne in an oval capsule as large as a pigeon's egg.

"When the Paulownia was first introduced into the Garden of Plants, at Paris, it was treated as a delicate green-house plant. It was soon found, however, that it was perfectly hardy on the Continent and in England. In this country, it appears equally so. The trees in this latitude have stood the past two winters, even in exposed situations, without covering, and have not lost an inch of the previous season's growth. We, therefore, consider it a hardier tree than the Catalpa, which often suffers badly from the cold of this latitude. Nothing is easier than the propagation of this tree. Single buds will grow, like those of the Mulberry and the Vine, taken off early in the spring, and covered about an inch deep in the soil of a fresh hot-bed. The cuttings of the young shoots, planted under a hand-glass in a shady border, strike root readily. But by far the easiest and most rapid mode is that of planting pieces of the roots.

"Every little piece of the root of the Paulownia will, under certain conditions, produce a plant. It is only necessary to make a common hot-bed early in the spring, reduce the roots of the parent tree, (and it will bear a very severe reduction,) and plant every piece that will make a cutting not smaller than a goose-quill, and a couple of inches long. Plant these bits of roots about an inch and a half deep in the rich, light soil of the hot-bed. In a fortnight's time every bit will throw up a bud, make new roots, and become a distinct plant. When the plants

are about three inches high, they may be transplanted into rows, beds, borders, or, in short, wherever they are finally to grow. If the season is favorable, they will grow to the height of from three to six feet before the close of the autumn. Next year, if the soil is deep, they will make shoots eight or ten feet long.

“When the Paulownia was first offered for sale in Europe, about three years ago, it was advertised by the Brothers Baumann, the great nurserymen of the Rhine, at from three to six guineas per plant. From the rapidity with which the nurserymen are propagating it now, in this country, we have no doubt it may be bought next autumn, at wholesale, at about the same price per hundred trees.

“The parent tree, in the *Jardin des Plantes*, Paris, has already borne seeds, in considerable quantity, which have vegetated very regularly. The tree has not yet, to our knowledge, flowered in this country, but will probably do so next spring. As soon as the seeds are produced in abundance, we advise cultivators to resort to them — the best of all modes of propagating ornamental trees — when it is possible to do so.”



PEONY.

Pæonia moutan, and its varieties, are magnificent plants for the front rank in the shrubbery; — for description of them, and modes of culture, see *Pæonia*, under the head of Bulbous and Tuberous Roots. — See page 68.



PHILADELPHUS.

Syringa.

From *Ptolemy Philadelphus*, King of Egypt. It is also called Mock Orange.

The Syringa is a most delicious shrub: the foliage is luxuriant, the blossom beautiful and abundant, white as the purest Lily, and of the most fragrant scent. In a room, indeed, this perfume is too powerful, but in the air it is remarkably agreeable. There is a variety which has no scent, and also a dwarf variety, which does not usually exceed three feet in height. The flowers sweet, and some double.

"The sweet Syringa, yielding but in scent
To the rich Orange, or the Woodbine wild,
That loves to hang on barren boughs, remote,
Her wreaths of flowery perfume."

All the species are propagated by suckers, layers, or cuttings, and thrive in any good garden soil.

P. grandiflorus. — Large-flowering Syringa. — This is the handsomest of the genus. It is perfectly hardy, growing in any soil or situation, forming a spreading shrub about six feet or more high; flowering in June and July.

P. hirsutus. — This shrub grows from four to five feet high. Like the last, it is a native of North America, where it was discovered by Mr. Nuttall. It thrives in the shrubbery in any common garden soil, and is propagated like the others.

P. coronarius, — or Common Syringa, — greatly resembles the other; grows about five feet high, and is delightfully fragrant when in bloom. Flowers in June and July.



P R U N U S .

Plum.

The genus are natives of North America, Europe, and Asia. Many of them are thorny plants in the wild state. They have showy flowers, in clusters. Some of the species are esteemed ornamental.

Prunus candicans. — This is a delightful, hardy, deciduous shrub, growing about six or eight feet high. It is very easy

of cultivation, and in May and June, when in full flower, is a perfect picture, the white flowers nearly hiding the young leaves, which are beginning at that time to cover the branches. It may either be propagated by layers, or by budding and grafting on the common plum stock.

P. sibirica scarcely grows so large as the *candicans*; thrives well in almost any soil and situation, and makes a pretty ornament when in flower. It may be increased both by layers and budding, or grafting on a common plum stock.

P Y R U S .

The Apple, the Pear, the Service, the Beam tree, and the Mountain Ash, besides several less important plants, belong to this genus.

Pyrus coronaria. — Sweet-scented Crab. — This beautiful Crab tree is a native of North America. It grows upwards of twenty feet high. In May, when it flowers, a delightful fragrance is emitted, which in the evening perfumes the whole of that part of the garden. It will grow in almost any low situation, and may be propagated by grafting on other crab stocks, or by layers.

P. floribunda. — This forms a broad-spreading, but not very lofty, bush, which in spring is thickly covered with blossoms, and in autumn with purple berries. It grows freely in common garden soil, and may be propagated by the same means as *coronaria*.

P. spuria. — A small deciduous shrub, very hardy, and easy of propagation. Grafted upon the common stock, or crab or pear stocks, it grows very freely.

P. angustifolia. — This very pretty shrub rarely loses all its leaves; for, although not an evergreen, the leaves of the previous year seldom fall until new ones are produced. It resembles in size *P. coronaria*, seldom growing above eight feet high. It is propagated by grafting on the crab stock, and by

layers. Flowers pink, in May. Grows from ten to twenty feet high.

P. prunifolia. — Siberian Crab. — This well-known species is a native of Siberia. It is not only ornamental in flower, but in fruit. There are two varieties, one with scarlet, the other with yellow, fruit. The fruit is sometimes used as a preserve, but it is more ornamental than useful. The tree grows fifteen to twenty feet high; in flower in May. Propagated by grafting or budding.

P. Americana. — American Mountain Ash. — This shrub, or small tree, has a strong resemblance to the European Mountain Ash, but is much more dwarf and bushy. It grows sixteen to twenty feet high. The flowers, which expand early in June, are white. The fruit is first orange, then turns to a bright-scarlet, and very much like the imported species.

P. aucupana. — European Mountain Ash. — This is more graceful in its habits than the American species, making quite a handsome tree, of twenty-five or thirty feet in height. The foliage of both kinds is graceful, but this species is the most delicate. The berries are more compact, and produced in great profusion. These constitute the great ornament of the tree.

Mr. Emerson informs us "that the English Mountain Ash is commonly known in England by the name of Rowan or Roan-tree, and, in some districts, Witchan, and has long been considered of sovereign power against witches and evil spirits, and all their fascinations and spells. For this purpose it was made into walking-sticks, or branches of it were hung about the house or about stables and cow-houses. In a stanza of an ancient song, quoted by the author of 'Sylvan Sketches,' we have:—

'Their spells were vain; the hags returned
To the queen in sorrowful mood,
Crying that witches have no power
Where there is Roan-tree wood.'

She adds, — 'This last line leads to the true reading of a line

in Shakspeare's tragedy of Macbeth. The sailor's wife, on the witch's requesting some chestnuts, hastily answers, "A rowan-tree, witch!" but all the editions have, "Aroint thee, witch!" which is nonsense, and evidently a corruption.'

"As the Rowan-tree grows freely in the most exposed situations, it is often planted as a nurse to young trees of slow growth, exposed to the sea-breeze, and it has the great advantage of not growing above a certain height, so that when it has performed its office it does not interfere with the growth of the oaks and other trees for whose benefit they were planted. It flourishes best in a good moist soil, in any easy exposure."

The trees are easily raised from the seed. If sown in autumn, the young plants will appear in eighteen months.

R H A M N U S .

The Buckthorn.

Rhamnus, — from the Celtic ram, signifying branching. A genus of shrubby plants, of no great interest, except for their medicinal qualities, or for the uses of their berries for dyes or paints, or the wood of some species for carving into images.

R. cathartica, — the Common Buckthorn, — is a well-known shrub, or small tree, "the fruit of which was formerly employed, in medicine, as a purgative, but it is too violent and drastic to be safely used, and is now chiefly confined to veterinary practice, to which it is well adapted. The saffron-colored juice of the unripe berries, called French berries by dyers, is used as paint and a dye. Sap-green is made of the inspissated juice of the ripe berries, with alum and gum Arabic. If gathered very late, they yield a purple, instead of a green, color. The bark furnishes a beautiful yellow dye, or, dried, it colors brown. The wood of the roots is yellowish-brown, with a satin lustre, and very compact, and may be employed by the turner." — (*Emerson.*)

The great value of the Buckthorn, with us, is for hedges. It is perfectly hardy, grows rapidly, and bears pruning better than any other shrub with which we are acquainted. Another important item in its value is, that it is never attacked by insects of any description. It is, also, very tough, and flourishes in any soil. No animal, except sheep or goats, will feed upon it. We consider it, therefore, the only plant for general use for the formation of hedges. "It puts forth its leaves early in the spring, and retains them late in the fall, and its bunches of rich berries are very showy in autumn."

The plants are easily raised from seed, which may be planted either in the fall or very early in the spring. When planted in autumn, it may be done as soon as the berries mature.

The berries should be first mashed and washed, so that they may be planted more evenly. The seed may be sown in drills eighteen inches apart, or in beds. The fall-sown seed will vegetate very early in the spring, while those sown in the spring will not appear under four or five weeks from the time of planting. The second year, the plants may be transferred to the nursery, and should be headed down as soon as they begin to grow. This causes them to thicken at the bottom; a very important point to be remembered, for unless they are first grown with branches from the bottom, no after cultivation can remedy the neglect.

The best hedges we have seen were those where the plants were placed in a single line, six inches distant from each other.

RHODODENDRON.

American Rose Bay.

Rhododendron maximum. — The generic name is derived from the Greek, *rhodon*, a rose, and *dendron*, a tree, because the flowers resemble, in color, bunches of roses. In the Northern States, it is a straggling shrub, of very irregular growth,

but one of the most magnificent in foliage and flower the country can boast of. It is abundant in the Middle States, and in the mountainous tracts of the Southern, but in New England rare. It is found near Portland, Leicester, and in a swamp in Medfield, in this state.

The *Rhododendron* is generally under ten feet in height in this part of the country, but sometimes attains the height of twenty or twenty-five feet in a less rigorous climate. The places where it is found, in New England, may be considered as beyond its proper natural limits, and it will be met with only in warm swamps, under the shelter of evergreens, and where the roots are protected by water, which usually overflows these places.

The flower-buds are often destroyed, even thus situated, in very severe seasons. When the leaves are beginning to unfold themselves they are rose-colored, and covered with red down. When fully expanded, they are smooth, five or six inches long, of an elongated oval form, and of a thick coriaceous texture. They are evergreen, and partially renewed once in three or four years. It puts forth flowers in June and July, which are, commonly, rose-colored, with yellow or orange dots on the inside, and sometimes pure white, or shaded with lake. They are always collected at the extremity of the branches, in beautiful groups, which derive additional lustre from the foliage that surrounds them. Previous to its expansion, the whole bud forms one large compound bud, resembling a strobilus or cone, each individual one being covered by a rhomboidal bracte, which falls off when the flower expands. The corolla is monopetalous, (one piece or petal,) funnel-shaped, with a short tube, the border divided into five large, unequal segments. There is but a small chance of plants succeeding which have been taken from swamps. The surest way to propagate it is by seed, from which it readily grows, but requires time and patience to bring it into a flowering state.

Shade and humidity seem almost indispensable to the growth of this shrub. Deeply shaded situations, where the atmosphere

is laden with vapors, are most congenial to its growth. It is, therefore, well calculated for the shrubbery. With a little attention, it may be inured to stand the sun, and then forms a stately ornament for the lawn or grass-plot. The proper soil is a light, rich, peaty loam, with moisture. It will grow, however, in almost any, and flourish on a strong, heavy loam. It may be propagated from cuttings and layers, from young, healthy branches of ripened wood, and, managed as ordinary plants, thus increased. There are many exotic species, which are beautiful, and highly ornamental to the green-house. *R. ponticum* and many others will withstand the winter in the open ground, if well protected, as most of them are natives of cold, mountainous regions, and covered in the winter by Alpine snows.

R. maximum is one of the parents from which a numerous family of splendid varieties have been produced, all equally hardy, and are only to be known, and their cultivation understood, to make them more common. The Messrs. Hoveys have exhibited, at the Horticultural Rooms, the flowers of many splendid varieties, grown in their nurseries, at Cambridge, in the open ground, fully exposed to the sun, in a rather low, moist location, and a peaty soil.

PROPAGATION OF RHODODENDRON BY LAYERS.

“When the plants are in full growth, merely peg down the young shoots, without any incision, and cover them with about two inches of soil, and by the following spring they will be ready to separate.

“*Cuttings* of half-ripened wood, planted under a hand-glass, in September, on a north border, in peat earth, will often strike and make good plants, but layers are preferable.

“*Separating the plant at the roots.* — This is merely tearing off, or separating with a sharp knife, those branches with roots attached to them, which is the case when many branching stems spring from the same root.

“*By seed.* — Sow the seed on a bed of peat soil, (heath

mould,) if there is a considerable quantity ; but if only a small portion, sow in a pan, or box, because of the ease with which the latter can be protected by placing it in a frame. If sown on a bed, shelter the plants while young, from heavy rains, &c., by mats, or hoops. Transplant, when large enough, into other beds, or into pots, and continue to shift them, every two years, till they are large enough to plant into their permanent situations."

RHODORA.

False Honeysuckle.

On the margin of swamps and in wet meadows may be found the *Rhodora canadensis*, a beautiful shrub, frequently in large masses, of many yards in circumference, and when in bloom, in May, presents a magnificent appearance.

The flowers appear on the extremity of the branches before the leaves are perfectly expanded, are of a fine purple, in shape somewhat resembling the Honeysuckle, whence its common name, False Honeysuckle ; from two to three feet high.

I have been successful with this fine shrub, by taking large masses of it from the meadows, with the earth attached to the roots, and planting in a moist soil ; also, by taking the suckers, which it throws up as freely as the Lilac. It will flourish without much difficulty.

RHUS.

Sumach.

Rhus, — derived from the same root as *Rosa*, *rhudd*, in Celtic, signifying red, on account of the color of the fruit.

Some of the species are valuable in the arts, for tanning, dyeing, varnish, &c. The Sumachs are much cultivated for their singularity, and for the beauty of the foliage, especially in autumn, when it assumes the richest colors. "The most elegant species cannot be safely admitted into a garden, on account of their poisonous qualities."

Rhus typhina. — Stag's-Horn Sumach. — This is one of the safe species, and highly ornamental in the shrubbery, on account of its elegant compound leaves and bunches of rich scarlet berries. The shrub, which grows to the height of twelve to twenty feet, is ugly shaped, its branches being rather naked and crooked. It must, therefore, be planted with other shrubs, so as to conceal, as much as possible, the crooked, irregular stems and branches. There is no particular beauty in the flowers; but in July and August the heads of berries begin to assume a rich scarlet color, afterwards turning to purple, and remain conspicuous and beautiful into winter; while in autumn the leaves begin early to turn, and become of a red color, with various shades of yellow, orange, and purple. The ends of the branches, from their irregularity and the abundant down with which they are covered, resemble the young horns of the stag, whence their name.

Rhus copallina, — The Mountain Sumach, — is another beautiful species, "found growing on dry rocks, or sandy hills, about the same height of the last, in favorable, protected situations, but usually about three to five feet. The varnished polish of the leaves, and the rich purple they assume in autumn, as well as the scarlet of the leafy heads of fruit, make this species one of the most beautiful of the genus."

Rhus glabra. — The Smooth Sumach. — This is a handsome, spreading, leafy bush, usually four to six, rarely ten, feet high. The leaves are compound, smooth, of a rich green. The flowers are disposed of in a large green head, of yellowish-green color, and agreeable fragrance. The velvety crimson heads of berries on this plant, as on the others, are very acid and astringent. The leaves are used in tanning.

Rhus cotinus. — Venetian Sumach, or Smoke Tree. — This species is much cultivated as an ornamental shrub. It is a crooked, straggling growing plant, from ten to fifteen feet high. No attempt should be made to make it grow straight by pruning, as it looks the best when left to itself, clothed with branches to the ground. Persons ignorant of the habits of the shrub,

often complain of nurserymen because they do not give them regular-shaped plants; but this is impossible, nor is it desirable.

The foliage is handsome; the flowers are disposed of in large panicles, first green, changing to a reddish-brown, and afterwards a brownish smoke color. The flowers, or appendages to them, have the appearance of downy silk, in light, airy masses, and, as the plant is nearly covered with these graceful clusters, have some resemblance to puffs of smoke emerging from the graceful leaves.

It is propagated from layers, very readily, and probably from seed, which, however, we have never seen. It is well adapted to the shrubbery.

"In Greece and Russia, the shrub is used for tanning, and for dyeing a rich, beautiful yellow, and in Italy and about Venice, for dyeing black, and also for tanning."

The poisonous species of *Rhus* to be avoided are, *R. venenata* and *R. toxicodendron*.

Rhus venenata. — The Poison Sumach, or Dogwood. — "This is the most poisonous woody plant of New England. Some persons are so susceptible to its influence as to be poisoned by the air blowing from it, or being near a fire on which it is burning. The poison shows itself in painful and long-continued swellings and eruptions of the face and hands, and other parts of the body. The effects are exasperated by smelling or handling the plant. Other persons handle and rub it, and even chew and swallow the leaves, with impunity.

"The Poison Sumach is, perhaps, the most beautiful plant of the swamps." It is a shrub from eight to fifteen feet in height. The leaves are compound, having from three to thirteen leaflets, that are attached to the mid-rib without much if any stem, or, as the botanist terms it, "nearly sessile." The leaves are a dark-green, with a rich polish; the veins of a purplish-red above, much paler, sometimes downy, beneath.

The flowers, which are small and greenish-yellow, are in open, loose panicles, ten or twelve inches long, from the axils of the

leaves. These are succeeded by pendent clusters of whitish berries. The writer has had painful experience, in his younger days, of the bad influence of this plant upon his person, having been thoroughly poisoned a number of times by approaching it. I imagined that it would poison me when I came near the plant, even without a touch; therefore, always carefully avoided it.

R. toxicodendron. — Poison Ivy. — "This is a handsome climbing plant, and would be desirable for covering walls, trees, &c., were it not for its poisonous qualities. It is very hardy, frequent in moist or shady places, climbing over rocks, to which it attaches itself by numerous radicles, which penetrate the investing lichens, or over bushes, or along the trunks of trees, often to a great height, fastening itself to the bark so firmly that it breaks more readily than it is detached, and so closely as to impede the growth of the plant. The leaves are smooth, and shining on both surfaces. The plant is poisonous, like the last, but in an inferior degree."

RIBES.

Currant.

The Currant family is familiar to all, on account of the grateful and healthy fruit which some of the species produce. Some of the tribe are highly ornamental, and desirable in the shrubbery.

Ribes sanguineum. — Red-flowering Currant. — This is a very handsome ornamental species, producing pendent racemes of rich deep-red flowers, in May. The shrub is about three feet high; the foliage elegant. The plant is easily propagated by cuttings. I find it is rather tender, the extremities of the branches being often killed in this climate. Probably, if planted the north side of a wall, or where it is partially shaded with evergreens, it would succeed better.

Ribes speciosa. — Crimson-flowering Currant. — The flowers

are a bright-crimson, far superior in brilliancy to *sanguineum*. It is not very common, and, like the last, somewhat tender.

R. fragrans. — Fragrant Currant. — This, with the red-flowering varieties, are natives of North America. This species produces a profusion of yellow, fragrant flowers, in May, perfuming the whole region in its neighborhood.

R. aureum. — Golden-flowered Currant. — A native of Missouri, is very much like the last; all are propagated like the common Currant.

R. sanguineum flore plena. — The Double Crimson Currant. — We have not seen this beautiful flower, but, according to Mr. Downing's description, it must be very desirable. He says: "This new and charming variety of the Crimson-flowering Currant, is a seedling from *R. sanguineum*, by Mr. David Dick, gardener to the Earl of Selkirk. It is but just introduced into this country, but since, like all the Currant genus, it is very easily propagated by cuttings, we hope speedily to see it in every good collection of shrubs.

The blossoms are larger than the single variety, the racemes from three to six inches in length; and the effect of the shrub, when laden, in spring, with their fine pendent blossoms, is very rich and striking. Its flowers open, according to Paxton's Magazine, about three weeks later than those of the parent species.

ROBINIA.

Locust.

Robinia, in memory of Jean Robin, herbarist to Henry IV., of France.

A North American genus of a few species of trees or shrubs, bearing a profusion of handsome, pea-shaped flowers, in long, pendent racemes, and elegant compound leaves.

Robinia pseaudacacia. — The Common Locust. — This is too well known to make it necessary to give a description.

Were it not for the ravages of a species of borer, which attacks this tree, oftentimes destroying them in a few years, it would be one of the finest in existence for the back-ground of a shrubbery. It is a rapid grower, elegant foliage, fragrant, beautiful flowers, in great profusion, and very hardy. The blossoms are butterfly or pea-shaped, white, with yellow in the middle, produced in June and July. The insects are so destructive to it, that the trees soon become disfigured, losing their limbs, in consequence of the many perforations made by these troublesome little creatures.

Robinia viscosa. — Clammy-barked Locust. — This is a small tree, with large pale-pink flowers. The branches are covered with a gummy substance that is unpleasant to the touch. It looks well with other trees and shrubs.

Robinia hispida. — Rose Acacia. — This is a beautiful flowering shrub, growing from three to ten feet high, bearing a great profusion of elegant rose-colored flowers, which are produced in dense, pendent racemes. The shrub commences flowering when only two feet high. It has long, rambling roots, which throw up numerous suckers. The branches are thickly clothed with stiff hairs. This is a very desirable species. The foliage resembles the other species.

Robinia crispa. — Crisp-leaved Robina. — This is a species or variety we imported last year, with others named below. It has very singularly curious and elegant leaves; they are compound, like all the others, each leaflet being curiously and uniformly contorted, giving to the foliage a very unique and rich appearance. The others were *R. inermis*; *tertuoso*, the branches all growing in a circular, zigzag style; *macrophylla*, *sophorafolia*, *dubia*, *vulubilis*, *elegans* and *grandiflora*. The style of the leaves in all is the same; only a few of them flowered, but all will be desirable, no doubt, for ornament, if they are not disturbed by the borers.

The new sorts are propagated by grafting on the common varieties.

ROSA.

The Rose.

This well-known and highly esteemed family of plants, or shrubs, embrace many distinct species, which, by the skill of the florist, have multiplied into thousands of varieties. They vary in height from one to twelve or fifteen feet, producing flowers, single, semi-double and double, and generally of exquisite fragrance. The colors are, pure white, white-tinted, shaded, striped, or mottled; every shade of red to purple, and all these shades and colors variously mixed; also a few yellow varieties. There are no black roses, although we sometimes hear of them. Such as are sold for black roses are those of dark shades of purple or crimson. The foliage is also various in the different species or varieties, but of a general character. They are different also in the appendages to the plant, some having formidable thorns, while others are entirely destitute. Some flower only once in the season — others are perpetual, or everblooming. Most are hardy, but many require protection. It is a flower beloved by every one, not only in the present age, but has been in all ages past, and will no doubt continue to be the most prominent and desirable flower as long as the world stands. It may, with propriety, be styled the *Queen of flowers*. We have not space in this work to do justice to its merits, and must refer our readers, for the details of its culture, and for a mass of valuable and interesting particulars, to a work published by S. B. Parsons, of Flushing, near New York, constituting a volume of 280 pages, octavo, treating largely upon the Rose, which we heartily commend to all the lovers of this universal favorite. Mr. Parsons treats of it historically, poetically, and scientifically, as well as in a practical manner. We must, of course, say something of the Rose ourselves poetically, — for who can dwell long upon this beautiful flower without some aspirations of this kind? — but not having a faculty of soaring upon our own wings, we must cull from others, and finding in a work

entitled "*Flora Domestica*," all we desire under this head, we give the following copious extracts, which may not be unacceptable to a *portion* of our readers at least : —

"The Rose is preëminently the flower of love and poetry, the very perfection of floral realities. Imagination may have flattered herself that her power could form a more perfect beauty ; but, it is said, she never yet discovered such to mortal eyes. This, however, she would persuade us to be a mere matter of delicacy, and that she had the authority of Apollo for her secret success :

————— ' No mortal eye can reach the flowers,
And 't is right just, for well Apollo knows
'T would make the poet quarrel with the Rose.'

It is, however, determined, that until the claim of such veiled beauty, or beauties, shall rest upon better foundation, the Rose shall still be considered as the unrivalled Queen of flowers.

' I saw the sweetest flower wild nature yields,
A fresh-blown Musk Rose.'

"It is said, however, that the angels possess a more beautiful kind of Rose than those we have on earth. David saw in a vision a number of angels pass by with gilded baskets in their hands.

' Some as they went, the blue-eyed Violets strew,
Some spotless Lilies in loose order threw ;
Some did the way with full-blown Roses spread,
Their smell divine, and color strangely red ;
Not such as our dull gardens proudly wear,
Whom weathers taint, and winds' rude kisses tear ;
Such, I believe, was the first Rose's hue,
Which at God's word in beauteous Eden grew ;
Queen of the flowers that made that orchard gay,
The morning blushes of the spring's new day.'

COWLEY.

"The Rose, as well as the Myrtle, is considered as sacred to the Goddess of beauty. Berkley, in his Utopia, describes lovers as declaring their passion by presenting to the fair-beloved a

Rose-bud just beginning to open ; if the lady accepted and wore the bud, she was supposed to favor his pretensions. As time increased the lover's affections, he followed up the first present by that of a half-blown Rose, which was again succeeded by one full-blown ; and if the lady wore this last, she was considered as engaged for life.

"Poetry is lavish of roses ; it heaps them into beds, weaves them into crowns, twines them into arbors, forges them into chains, adorns with them the goblet used in the festivals of Bacchus, plants them in the bosom of beauty, — nay, not only delights to bring in the Rose itself upon every occasion, but seizes each particular beauty it possesses as an object of comparison with the loveliest works of nature : — as soft as a rose-leaf ; as sweet as a rose ; rosy clouds ; rosy cheeks ; rosy lips ; rosy blushes ; rosy dawns, &c., &c. It is commonly united with the Lily : —

' In the time that the morning did strew Roses and Violets on the heavenly floor against the coming of the sun.'

' A bed of Lilies flower upon her cheek,
And in the midst was set a circling Rose.'

' Rosed all in lovely crimson are thy cheeks,
Where beauties indeflowering abide,
And as to pass his fellow either seeks,
Seem both to blush at one another's pride.'

"The Red Rose is said to have been indebted for its color to the blood which flowed from the thorn-wounded feet of Venus when running through the woods in despair for the loss of Adonis ; as the White Rose is also said to have sprung from the tears which the goddess shed upon that occasion. Ample reasons these for dedicating them to her.

' White as the native Rose before the change,
Which Venus' blood did in her leaves impress.'

"Anacreon tells us that it was dyed with nectar by the gods
23*

when it was first formed ; he speaks of it, too, as the flower of Bacchus : —

‘ With nectar drops, a ruby tide,
The sweetly orient buds they dyed,
And bade them bloom ; the flowers divine
Of him who sheds the teeming vine.’

Some say they were dyed with the blood of Cupid ; and

—— ‘ ’T is said, as Cupid danced among
The gods, he down the nectar flung ;
Which, on the white Rose being shed,
Made it forever after red.’

But the general opinion is, that the Rose is indebted to Venus for its beautiful blushes.

“ Perhaps the most beautiful season of the Rose is when partly blown ; then too she still promises us a continuance of delight ; but when full-blown, she inspires us with the fear of losing her.

“ Constance, expatiating on the beauty of her son, says, —

‘ Nature and fortune joined to make thee great ;
Of nature’s gifts thou mayst with Lilies boast,
And with the half-blown Rose.’

“ The bed of roses is not altogether a fiction. ‘ The Roses of the Sinan Nile, or garden of the Nile, attached to the Emperor of Morocco’s palace, are unequalled ; and mattresses are made of their leaves, for men of rank to recline upon.’

“ The Eastern poets have united the Rose with the nightingale ; the Venus of flowers with the Apollo of birds ; the Rose is supposed to burst forth from its bud at the song of the nightingale.

“ A festival is held in Persia, called the Feast of Roses, which lasts the whole time they are in bloom.

‘ And all is ecstasy, for now
The valley holds its Feast of Roses ;

That joyous time when pleasures pour
 Profusely round, and in their shower
 Hearts open, like the season's Rose, —
 The flowret of a hundred leaves,
 Expanding while the dew-fall flows,
 And every leaf its balm receives !'

" ' Persia is the very land of Roses. — " On my first entering this bower of fairy land," says Sir Robert Kerr Porter, speaking of the garden of one of the royal palaces of Persia, " I was struck with the appearance of two Rose-trees, full fourteen feet high, laden with thousands of flowers, in every degree of expansion, and of a bloom and delicacy of scent that imbued the whole atmosphere with exquisite perfume. Indeed, I believe that in no country in the world does the Rose grow in such perfection as in Persia ; in no country is it so cultivated and prized by the natives. Their gardens and courts are crowded by its plants, their rooms ornamented with vases filled with its gathered bunches, and every bath strewn with the full-blown flowers, plucked with the ever-replenished stems. * * * * But in this delicious garden of Negaaristan, the eye and the smell are not the only senses regaled by the presence of the Rose. The ear is enchanted by the wild and beautiful notes of multitudes of nightingales, whose warblings seem to increase in melody and softness with the unfolding of their favorite flowers. Here, indeed, the stranger is more powerfully reminded that he is in the genuine country of the nightingale and the Rose."— (*Persia in Miniature*, vol. iii.)

" Sir William Ouseley accompanied his brother, the ambassador, on a visit to a man of high rank at Teheran ; and though there was a great profusion of meat and fruit at this entertainment, ' it might,' he says, ' have been styled the Feast of Roses, for the floor of the great hall, or open-fronted *talar*, was spread in the middle, and in the recess, with Roses forming the figures of cypress-trees ; Roses decorated all the candle-sticks, which were very numerous. The surface of the *hawz*, or reservoir of water, was completely covered with rose-leaves,

which also were scattered on the principal walks leading to the mansion.'

"He says that the surface of this reservoir was so entirely covered with rose-leaves, that the water was visible only when stirred by the air, and that the servants, during the entertainment, were continually scattering fresh Roses both upon the waters and the floor of the hall.*

"We must not dismiss the subject of the Rose, without recalling to the minds of our readers those beautiful lines from Milton:—

————— 'Eve separate he spies,
Veiled in a cloud of fragrance where she stood,
Half spied, so thick the Roses blushing round
About her glowed; oft stooping to support
Each flower of tender stalk, whose head, though gay
Carnation, purple, azure, or speck'd with gold,
Hung drooping unsustained; them she upstays
Gently with myrtle band, mindless the while
Herself, though fairest unsupported flower,
From her best prop so far, and storm so nigh.'

"In two different poems, where Venus is represented, she has a crown of white and red flowers:—

'I saw anone right her figure
Nakid yfletyng in a se,
And also on her hedde parde
Her rosy garland white and redde.'

'Then father Anchises decked a capacious bowl with garlands, and filled it up with wine.'—(*Davidson's Translation.*)

"'To crown the bowl,' says Mr. Davidson, 'sometimes signifies no more than to fill the cup to the brim; but here it is to be taken literally for adorning the bowl with flowers, according to the ancient custom. Otherwise, *implevitque mero* would be mere tautology.' Horace repeatedly speaks of crowning the bowl with Roses.

"The Romans were at great expense to procure Roses in win-

* See Sir W. Ouseley's Travels in the East, vol. iii., pp. 352 and 353.

ter; Suetonius affirms that Nero spent upwards of 4,000,000 of sesterces, about thirty thousand pounds, for Roses, at one supper. Horace alludes to this custom in his thirty-eighth Ode, Book i.

‘Seek not for late-blowing Roses; I ask no other crown than simple Myrtle.’

“It is said that the Turks cannot endure to see a Rose-leaf fall to the ground, because, says Gerarde, ‘some of them have dreamed that the first Rose sprang from the blood of Venus.’

“It may, perhaps, be worth while to quote Gerarde’s translation of a passage from Anacreon, rather for its curiosity than beauty:—

‘The Rose is the honor and beauty of flowers,
The Rose is the care and the love of the spring,
The Rose is the pleasure of th’ heavenly powers;
The boy of fair Venus, Cythera’s darling,
Doth wrap his head round with garlands of Rose,
When to the dances of the Graces he goes.’

“Many species of the Rose preserve their sweet perfume even after death; as the poet observes in the following passage:—

‘And first of all, the Rose; because its breath
Is rich beyond the rest; and when it dies,
It doth bequeath a charm to sweeten death.’

“The very essence of this sweet perfume is extracted from the flowers; and the attar of Roses is dearer than gold:—

‘The Rose looks fair, but fairer we it deem
For that sweet odor which doth in it live.
The canker blooms have full as deep a dye
As the perfumed tincture of the Roses,
Hang on such thorns, and play as wantonly,
When summer’s breath their masked buds discloses.
But, for their virtue only is their show,
They live unmoved, and unrespected fade;
Die to themselves; sweet Roses do not so;
Of their sweet deaths are sweetest odors made.’ ”

“The Moss Rose, or Moss Provence Rose, is well known as an elegant plant. The flowers are deeply colored, and the rich

mossiness which surrounds them gives them a luxuriant appearance not easily described ; but it is familiar to every one. It is a fragrant flower ; its country is not known to us, and we know it only as a double flower.

“The origin of its mossy vest has been explained to us by a German writer : —

‘The angel of the flowers one day
Beneath a Rose-tree sleeping lay :
That spirit, to whose charge is given
To bathe young buds in dews from heaven ;
Awaking from his light repose,
The angel whispered to the Rose :
‘O fondest object of my care,
Still fairest found where all are fair,
For the sweet shade thou ’st given to me,
Ask what thou wilt, ’t is granted thee.’
‘Then,’ said the Rose, with deepened glow,
‘On me another grace bestow.’
The spirit paused in silent thought ;
What grace was there that flower had not !
’T was but a moment ; — o’er the Rose
A veil of moss the angel throws,
And, robed in nature’s simplest weed,
Could there a flower that Rose exceed ?’ ”

We now proceed to give some practical instruction in relation to the Rose.

Soil. — Roses will succeed well in any good garden soil ; but to have them in perfection, it is necessary that the soil be well enriched and deeply dug. The Rose, like the vine, is a gross feeder, and is not injured by heavy manuring. In a poor, lean, shallow soil, it is impossible to bring out the beauties of any variety of the Rose. A strong, rich loam, or vegetable mould, with about one quarter of its bulk of well decomposed stable manure, is recommended by Parsons as a standard for the quality of the soil in which to grow the Rose ; and if the soil of the garden, where the Rose is to be planted, differs materially from this, the requisite materials should be added, that it may approach as near as possible to that standard. In my own experience, I have found that the more manure, if not an extrav-

agant quantity, the better the bloom ; but, in addition to the quality and richness of the soil, a good depth is absolutely necessary. My general practice is to plant out roses in beds, which, for all the hardy roses, I prefer to do in November. First, the ground should be trenched two spades deep, and a liberal supply of stable, barnyard, or night-soil manure, with bone-dust incorporated with it, as the digging proceeds, but not buried too deep. I have not been very particular as to the quantity or quality of the manure. After the ground is settled, the Roses may be planted. Four feet each way is about the proper distance to plant the different varieties of Roses, in the rosery.

Rivers recommends, as the best compost for Roses, rotten dung and pit sand for cold, clayey soils ; and for warm, dry soils, rotten dung and cool loams. He finds that night-soil, mixed with the drainings of the dunghill, or even with common ditch or pond water, so as to make a thick liquid, the best possible manure for Roses, poured on the surface of the soil twice in the winter, one or two gallons to each tree. In our climate, it may be applied in November and in April. In my beds of established Roses, I cause manure from the stable to be applied to the surface of the ground about the bushes, in November, which serves as a protection ; some of the tender sorts are fastened down and covered with the same. As soon as the ground is in a fit state to dig, in the spring, this manure is carefully incorporated with the surface soil, but not so as to injure the fibres or roots of the plants. A wet, retentive soil is injurious to the Rose, as I have found by sad experience ; but in a rich, dry loam my labors have been amply rewarded.

When Roses are to be planted out singly, as many of the climbing sorts are, the soil should be dug out two and a half feet deep ; the bottom may be filled, to the depth of six inches, with small stones, or, what is better, with bones, and then filled up with prepared soil.

Situation. — The Rose will flourish in any situation where the soil is well prepared ; but it is best to plant the Rose where

it can be shaded from the intensity of the mid-day sun. If it can be so located as to receive the morning and evening sun, and shaded during its greatest heat, the bloom will be more perfect, and continue longer. Some varieties are very delicate, and their blossoms are almost ruined by a full exposure. An eastern or northern exposure is, therefore, the best. Roses should not, however, be wholly shaded.

Planting. — The best season for planting all the hardy Roses, as before stated, is in autumn; or, if necessary to defer till spring, it should be done as early as possible. If planted late in the spring, it will be best to cut the plants down to a few buds. Any time, after the first severe frost, is a proper time to commence planting. The plants should be taken up with great care, disturbing the roots as little as possible, remembering that the breaking of a single fibre diminishes the strength of the growth and future prosperity of the plant. Presuming that the ground is all ready, the holes should be dug somewhat larger than the roots. When the planting is completed, the plant should stand but a very little lower than it stood before in the ground. The operation of placing the roots and fibres should be done with the nicest care. In my fall planting, I place the plant in an oblique direction, so that the plants may be easily bent down and covered. Fall-planted roses are liable to be more or less winter-killed, which is prevented, if covered with coarse litter, or manure.

We have seen Pillar Roses, in the grounds of Mr. Charles Hoffman, of Salem,—which, without protection, are liable to be killed down to within two or three feet of the ground,—grown in great magnificence, forming beautiful pyramids of Roses from twelve to fifteen feet high. We had never seen the Pillar Rose in such perfection. They were the same varieties which in our own ground did not exceed more than five or six feet, as the greater part of the new wood is every winter-killed down. We were informed that the supports to which these Roses were trained, consisting of nothing more than three or four strong

spruce poles, were taken away in autumn, and the plants laid down and covered with earth, or coarse manure.

The only time to plant tender Roses, as far north as Boston, is in the spring. The China, Bengal, and Tea Roses may be grown in the open ground, in New England, if they are taken up in autumn. They may be kept in a dry, cool cellar, with the roots packed in loam or sand; or they may be laid in by the heels, on a dry knoll, and covered with earth, where they will remain secure till spring. In planting them out, they should be cut down to a few buds, and they will bloom after the summer Roses have passed away, provided the roots were taken up well. In replanting Roses, the roots should be carefully examined, and all broken or bruised parts should be cut off with a sharp knife.

A young, healthy plant is much better than one that is old and overgrown, to plant out; indeed, old plants should be rejected.

Plantations of Roses should be made to succeed each other. In the second and third years after planting, the Rose will be in its greatest perfection. After the plants become old, they do not do so well; and I have found, in my own experience, that five years was long enough to continue the plantation. It is best then to prepare a new place, or, in fact, it should be prepared, and the new plantation made, a year before the old one is given up, as a general and perfect bloom cannot be expected the first year.

It is becoming fashionable, at the present time, to plant out Roses in masses, which have a fine effect, where the white, the crimson, or other distinct colors, are planted by themselves. Many of the strong-growing sorts are suitable for planting with other shrubs in the shrubbery.

Pruning. — Roses, in this climate, should be pruned early in the spring. For Roses that are grown as dwarfs, it is necessary to prune them down to a few buds; all the old wood, and the weak, last year's growth, should be taken entirely away. The young wood generally produces the finest flowers, which,

when properly pruned, are larger and much more double than when the bushes are suffered to grow at random.

In pruning climbing Roses, the operation must be different, as it is necessary to retain the whole length of the most vigorous shoots, cutting out all the old wood that will not be likely to produce fine flowers, and pruning down the lateral branches to one eye. The manner of pruning must, in a measure, depend upon the variety of the Rose, and more particularly upon the style in which it is to be trained. This must be left to the ingenuity and taste of the cultivator; and whether it is to be trained to a trellis, over an arch, pillar, or in whatever shape it is wanted, the proper way will generally suggest itself.

Propagation. — The Rose is propagated in various ways. Some varieties succeed well by cuttings, as the China and many of the tender Roses; but, with most of the hardy kinds, this is not often resorted to except by skilful gardeners.

By Layers. — All the summer-blooming Roses may be propagated in this way. It can be performed in midsummer, and for several weeks afterwards. Young shoots, at least one foot long and well matured, should be selected for this purpose. The mode of operation is the same as in all shrubby plants. The soil should be well dug about the plant, and increased by a little fresh loam, well enriched with rotten manure, raised about it, so as to form a little bed. Proceed, then, with the usual process of layering, "by making a slit with a sharp knife just below a bud, making a slanting cut, upwards and lengthwise, about half through the branch, forming a tongue from one to two inches long, on the back part of the shoot, right opposite the bud. A chip, or some of the soil, can be placed in the slit to prevent it from closing, and the shoot can then be carefully laid and pegged down at a point some two or three inches below the cut, keeping, at the same time, the top of the shoot some three or four inches out of the ground, and making it fast to a small stake to keep it upright." The prepared shoot should be buried about three or four inches deep. Great care will be necessary to prevent the branch from injury. The

ground over the layer should be covered with moss, or coarse manure, or some substance to screen it from the sun. In some varieties, the layers will be sufficiently rooted in autumn ; but in many kinds, particularly the hardy perpetuals, they will not be sufficiently established to separate from the parent plant till the autumn following.

By Suckers. — Many varieties of Roses are inclined to throw up suckers. With these sorts there is no difficulty in increasing the stock. These should be taken off with as much root as possible, every autumn, and planted out in nursery rows, or where they are to remain, if strong plants. The parent plant is also very much benefited by this operation.

Budding. — All the varieties of the Rose can be propagated by budding, and, to increase new and rare varieties, this mode is always resorted to. There are some sorts, naturally weak, which flower much more perfectly when budded on some strong-growing species ; but we hate a budded Rose-bush, and will not have one in our grounds if we can get them on their own roots. It requires much care and attention to keep them in order, as the stock is continually throwing up suckers, drawing all the nourishment from the budded variety. Where there are but few varieties, and a skilful gardener to look after the plants, there is no doubt but that it is desirable to have some varieties on strong-growing stocks. We were not a little amused, a few years since, upon a visit at the house of a horticultural friend, who, by the way, was better acquainted with the management of his fruit trees than he was with the flower-garden. His garden was well laid out and kept very neat. He was taking me round to show the various plants, and getting what information he could out of one he supposed knew more than he did about them. Presently he came to a wilderness of the French Dog Roses. "There," says he, "is a lot of the choicest Roses that could be obtained in France." "Indeed," says I, "they certainly look very vigorous." "They do, to be sure," he replied ; "but somehow or other they look very much alike, and the few that flowered this year were very single." "That is very prob-

able," I replied, "for Dog Roses have great resemblance to each other, and are always single." Great was his surprise, when I convinced him that the Roses he had imported and cultivated with so much care, were only suckers from the stocks on which his imported Roses were budded. He had planted them out, supposing they were on their own roots, and had not perceived the necessity of keeping down the suckers.

Tree Roses.—The Tree Rose is a beautiful object when in bloom. It is formed by inoculating the desired variety upon a standard, some four or five feet in height, generally the Dog Rose, as it is called in France, or the Eglantine. Many have been imported from France, and succeed well the first or second year; but from some cause they soon die. Either the severity of our winters, or our powerful summers' sun, causes their death.

New varieties are produced from seed raised from flowers, which have been crossed with others of opposite characters; but none but amateurs will attempt this, so this mode of propagation will not be dwelt upon.

Of the diseases of the Rose, and of the insects that infest it, we shall have something to say in another place.

GARDEN CLASSIFICATION OF ROSES.

On the subject of Classification of Roses, there have been much difficulty and confusion among amateurs; and even Rivers himself, one of the most correct of Rose amateurs in England or France, remarks: "Within the last ten years, how many plants have been named and unnamed, classed and unclassified! Professor A. placing it here, and Dr. B. placing it there! I can almost imagine Dame Nature laughing in her sleeve, when our philosophers are thus puzzled. Well, so it is, in a measure, with Roses; a variety has often equal claims on two classes. First impressions have placed it in one, and there, rival amateurs should let it remain."

We are pleased with Mr. Parsons' classification, as being the most simple of any we have seen, and also as distinctive

as possible, in a family so intermixed as the different varieties or species appear to be. We shall, therefore, give his system entire.

After speaking of the great confusion that has arisen in Rose nomenclature, he says : —

“ If there exists, then, this doubt of the proper class to which many Roses belong, we think it would be better to drop entirely this sub-classification, and adopt some more general heads, under one of which every Rose *can* be classed. It may often be difficult to ascertain whether a Rose is a Damask, a Provence, or a Hybrid China ; but there can be no difficulty in ascertaining whether it is dwarf or climbing, whether it blooms once or more in the year, and whether the leaves are rough as in the Remontants, or smooth as in the Bengals. We have, therefore, endeavored to simplify the old classification, and have placed all Roses under three principal heads, viz. :

“ I. Those that make distinct and separate periods of bloom throughout the season, as the Remontant Roses.

“ II. Those that bloom continually, without any temporary cessation, as the Bourbon, China, &c.

“ III. Those that bloom only once in the season, as the French and others.

“ The first of these includes only the present Damask and Hybrid Perpetuals, and for these we know no term so expressive as the French *Remontant*. *Perpetual* does not express their true character.

“ The second general head we call *Everblooming*. This is divided into five classes :

“ 1. The *Bourbon*, which are easily known by their luxuriant growth, and thick, large, leathery leaves. These are, moreover, perfectly hardy.

“ 2. The *China*, which includes the present China, Tea, and Noisette Roses, which are now much confused, as there are many among the Teas which are not tea-scented, and among the Noisettes which do not bloom in clusters. They are, moreover, so much alike in their growth and habit, that it is better

each should stand upon its own merits, and not on the characteristics of an imaginary class.

"3. *Musk*, known by its rather rougher foliage.

"4. *Macartney*, known by its very rich, glossy foliage, almost evergreen.

"5. *Microphylla*, easily distinguished by its peculiar foliage and straggling habit.

"The third general head we divide into five classes :

"1. *Garden Roses*. This includes all the present French, Provence, Hybrid Provence, Hybrid China, Hybrid Bourbon, White, and Damask Roses, many of which, under the old arrangement, differ more from others in their own class than from many in another class.

"2. *Moss Roses*, all of which are easily distinguished.

"3. *Brier Roses*, which will include the Sweet Brier, Hybrid Sweet Brier, and Austrian Brier.

"4. *The Scotch Rose*.

"5. *Climbing Rose* ; which are again divided into all the distinctive subdivisions."

ROSES THAT BLOOM DURING THE WHOLE SEASON.

Remontant Roses. — "The term Remontant," says Mr. Parsons, "signifying, literally, to grow again, we have chosen to designate this class of Roses, there being no word in our language equally expressive. They were formerly called Damask and Hybrid Perpetuals, but are distinguished by their peculiarity of distinct and separate periods of bloom. They bloom with the other roses in early summer, then cease for a while, then make a fresh bloom, and thus through the summer and autumn, differing entirely from the Bourbon and Bengal Roses, which grow and bloom continually through the summer." This class of Roses require longer time to establish themselves from layers than any others, as they are not often fit to detach from the old plant till the second year. Budding is resorted to for extensive propagation with this class. Some of the varieties, when

grown upon their own roots, do not do justice to themselves; but when worked on strong-growing stocks, grow much more luxuriantly, and give more perfect flowers. Mr. Parsons has described two hundred varieties of Roses from the various classes of those sorts he thinks most desirable for the amateur to select from. There are but few persons who will be disposed to cultivate that number. His selection is a very choice one, and I should hardly know myself which to reject. Fifty varieties, well chosen from the various classes, are as many as most persons, unless they have money enough and to spare, would be likely to cultivate; and the great majority would probably be happy to possess half that number. We would recommend Prince Albert, Madam Laffay, Rivers, Duchess of Sutherland, Crimson Perpetual, William Jessie, La Reine, and Robin Hood, for a small collection. When a large number are wanted, we refer to Parsons' selection and various catalogues.

Everblooming Roses. — These roses are distinguished from the Remontant, by blooming continually through the season, without any temporary cessation. They include the Bourbon, the Bengal and its sub-varieties, the Tea and Noisette, the Musk, the Macartney, and the Microphylla Roses."

The Everblooming Roses are very desirable, wherever the climate renders it possible to preserve them through the winter. As far north as Boston, the greater part of them can only be cultivated to perfection in the green-house, but further south, they endure the winter, even, without protection.

Bourbon Roses. — This section of the Everblooming Roses have succeeded in my own grounds; but, from appearances, I should think they could not be trusted out much further north, as I find the tops frequently killed down nearly to the ground. Mr. Parsons says they are perfectly hardy with him, (Long Island,) which is much warmer than in this State. He says, in speaking of it as having superior qualities to the Tea-scented Rose, "These qualities are, its perfect hardiness, its very thick, leathery foliage, its luxuriant growth, its constant bloom, and its thick, velvety petals of a consistency to endure even the

burning heat of a tropical sun." Some fine varieties are, Paul Joseph, Queen, Emilie Courtier, Bouquet de Flore, and Madame Desprez. This last has proved the most tender, and will not stand out here in the open ground.

China Roses. — This class of Roses we must set down as the proper inhabitants of the green-house, in this section of the country ; although, by planting in frames, taking up the plants and laying them in the ground in a dry place, or preserving them in a dry, cool cellar, they will do very well to plant out in the spring, and make a fine bloom after the summer Roses have passed away. Mr. Parsons remarks, that, "next to the Bourbon, this is perhaps the most valuable class of Roses ; but in this climate they need protection from the cold. This, however, can be easily afforded by salt, hay, or straw." I have tried to keep this class of Roses in the open ground, by protection of all kinds, but unfortunately their location was rather too wet in winter ; perhaps, in a dry, loamy soil, they would succeed better. Further south, this is a most desirable class for outdoor culture.

Tea and Noisette Roses. — What has been said in relation to the tenderness of the China Roses, will apply to the Tea and Noisette Roses. "The Tea and Noisette Roses have been generally classed distinct from the China." "They are, however, but varieties of the latter ; and there is so much confusion in the old classification, that the amateur is frequently misled. Many of the Roses now classed among the China, have a strong tea scent, and many of the present Tea Roses have very little fragrance. The characteristic of the Noisette Rose is understood to be its cluster-blooming habit." The Southern States must be the congenial climate for the whole class of China and Tea Roses. The author of the work already alluded to, however, says, "They will endure our winters, with the thermometer at zero, but it is better to protect them by means of straw and hay, or of boards upon low stakes. Perhaps the least troublesome way of protecting them, is to have one or more hot-bed frames, six feet by twelve, and about a

foot and a half or two feet deep. This can be set several inches in the ground, and litter of any kind placed around the sides. The Roses can be carefully taken up, and planted in this frame as thick as they will stand. The top can then be covered with boards, a little slanting, to carry off the rain, and the plants will be sufficiently protected. If the weather is severe, some litter can also be placed on the top." This class of Roses is so desirable that if, by any means, they can be protected without the expense of a green-house, it will be a great desideratum. For China Roses, we would name, Mrs. Bosanquet, Madame Breon, Grandiflora and Daily Blush. For Tea Roses, Eliza Sauvage, Marshal Bugeaud, Safrano, Triomphe de Luxembourg, and Princess Adelaide. For Noisettes, the fine yellow Cromatella, Aimee Vibert, Ne Plus Ultra, Lamarque, Jaune Desprez and Pactole.

Musk Roses. — The Musk Rose stands pretty well here, in a warm, dry situation, but, in wet ground, rather tender. In the latitude of Long Island, Mr. Parsons says it is quite hardy, having a plant of the old White Musk, that has braved the severity of more than twenty winters, in his grounds. "It has already, this season, made shoots of more than six feet; and in our Southern States more than double the growth would probably be attained." It produces its flowers in large clusters. We are familiar with the old white cluster, which commences flowering late, and continues till cold weather. Other fine varieties are, Eponine, and Princess of Nassau.

Macartney Roses. — "This Rose was brought from China to England, by Lord Macartney, in 1793. Its habit is luxuriant, and its foliage is more beautiful than of any other Rose, its leaves being thick, and of a rich glossy-green." As to hardiness, it is about the same as the China Rose. "It is one of the most desirable Roses for beds or borders. When covering the whole ground, and kept well pegged down, its rich, glossy foliage, gemmed with fragrant flowers, produces a fine effect." The two best varieties are *Alba odorata* and *Maria Leonida*.

Microphylla Roses. — "This Rose came originally from the Himalayan Mountains, and was brought to Europe in 1823."

It has not proved hardy with me, but with Mr. Parsons "it has endured the winter for the past two years, without protection, losing only a portion of the top of its shoots. Its foliage is small and singular, and its growth very robust."

ROSES THAT BLOOM ONLY ONCE IN THE SEASON.

"For want of a better, we use this term to designate all those Roses that bloom only once in the season, and that strongly resemble each other in habit and flower. It includes those classes called, by rose-growers, French, Provence, Hybrid Provence, Hybrid China, Hybrid Bourbon, White and Damask Roses." We refer our readers to Mr. Parsons' work, for many interesting particulars in relation to this classification, and for a select list of Roses, coming under this head. During the season of the flowering of the Rose, we noted a few varieties as being very fine, among which were the following:—

White Roses. — White Unique, Madame Hardy, Madame Plantier, Ball of Snow, and Princess Clementine. The old-fashioned White Rose should not certainly be forgotten, as it is associated with childhood. It is one of the three first Roses that opened their buds to the writer. Who can forget the old White Rose, as it was trained up the side of the house? We have seen a rose-bush, of this variety, trained fifteen feet high.

White Roses, Striped, Mottled, or Shaded. — Painted Damask, Margin Globe, Modeste, New Village Maid, Old Village Maid.

Rose-colored. — Franklin Provence, Las Casas, Caroline Mignonne, Triomphe of Breslau, Perpetual de Angers.

Deep-red. — Velours Episcopal, Cerise Superb, Fulgens, 29th of July, Brennus, La Fontaine, &c.

Purple and Dark Roses. — Mirabella, Gen. Thiers, Gen. Lamarque, Bell Thurette, Madame Camper, &c.

This list might be extended, but I have given enough, probably, to select from.

Moss Roses. — This is a well-known and elegant class of

Roses, of which the common Moss is about the only one that is very familiar. The Luxembourg Moss has dark crimson-cupped flowers, and is a vigorous grower. Perpetual White Moss is handsome only in bud. It produces a large cluster of beautiful mossy buds, but the flowers are inferior. It is not properly a perpetual, but produces a long succession of buds. The White Bath Moss has fine white flowers, which are sometimes lightly striped with pink.

Princess Adelaide is one of the most vigorous-growing Moss Roses, and would be one of the varieties we should recommend.

Cristata, or crested, is a singular and beautiful variety. Excepting when in bud, it does not have the appearance of a Moss Rose. The calyx has a beautiful crested appearance. "In a rich soil, this fringe-like crest most beautifully clasps and surmounts the bud, and gives the rich clusters a truly elegant appearance. Its form is globular, and its color rose." Other varieties recommended are, Alice Leroy, Crimson, Catharine de Wurtemberg, Celina, Eclatante, Lancel, Prolific, Unique de Provence, and Zoe.

Scotch Roses. — This class of Roses are distinguished by their small leaves, prickly stems, abundant bloom, delicate habits, early bloom. They flower about two weeks before the summer Roses. They are suitable for growing in masses, or borders, and the shrubbery. The original, from which all the varieties sprang, was found growing wild in Scotland and the north of England. In some of the catalogues two or three hundred varieties are described, but many of them are so near alike, it would be difficult to see the difference. Mr. Parsons says there are scarcely forty or fifty, distinct; and of these he recommends, as the three best; the Countess of Glasgow, Queen of May, and William the Fourth.

Brier Roses. — "These Roses are distinguished by their small, rough foliage, and brier habit. They include the Sweet Brier, the Hybrid Sweet Brier, and the Austrian Brier."

The Sweet Brier is a native of Europe, and found abun-

dantly in some parts of this country. Mr. Emerson supposes that it was introduced into this country, and now has become naturalized; the seeds having probably been disseminated by birds.

The Double Yellow Provence Rose is supposed to have had its origin from the Austrian Brier. It is an old inhabitant of some gardens, but a very shy bloomer, showing its flowers very sparing, and, some years, none. We have seen the bushes bending with their load of flowers. They are large, very double, of a pale-yellow. On account of its peculiar habits, it is not worth its room in the garden. Copper Austrian "is a very singular-looking Rose, blooming well in this climate, is of a coppery-red, and the outside inclining to pale-yellow, or sulphur." It has single flowers, but they are truly beautiful. The Yellow Harrison Rose was considered a great acquisition, a few years since, but this is now entirely eclipsed by the Persian Yellow. Its flowers are more double, and of a more brilliant yellow, than the Harrison; and this is the only hardy yellow Rose we know of, really worth growing, except the Copper Austrian. The flowers of the Austrian Roses are produced on short joints all along the stem; they will not, therefore, bear much pruning.

The common Sweet Brier is worthy a place in every garden, on account of its exquisite fragrance. In pruning this section of the class, the old wood only should be cut out.

"Double-margined Hip is a Hybrid Sweet Brier, of luxuriant growth, almost adapted to a pillar. Its form is cupped, and its color creamy-white, shaded with pink."

Climbing Roses. — The Climbing Roses may be divided into four or five sub-classes, viz., Boursalt, Ayrshire, Prairie, Hybrid China, Noisette or Bourbon, and Miscellaneous. In the Miscellaneous class, the old-fashioned Cinnamon may be placed, not knowing where else to put it; and it should most assuredly have a place somewhere, "for auld lang syne," if nothing more. It deserves a place in the shrubbery, on account of its early flowering and profuse bloom. It opens its

blossoms the last of May, in this climate, and, with a little attention, will make a bush ten or twelve feet high.

Boursalt Roses. — The Boursalt Roses come next in bloom after the Cinnamon. They are all desirable on account of their hardy character and vigorous growth. "Their smooth bark renders them desirable for stocks to bud upon." For the extreme north, this whole class, next to the Prairie, are the most desirable for pillars and trellises.

Amadis is one of the handsomest of the Boursalt Roses, producing its large purplish-crimson flowers in pendulous clusters.

For distant effect, the Common Purple Boursalt is not without its merits. The flowers are semi-double, but are produced in immense numbers; and, then, it is very hardy.

De Lesle, or Blush Boursalt. — This is one of the earliest of the sub-class, producing large blush flowers, with a deep rose centre, and perfectly double. All the Boursalts have quite smooth stems, but none more so than the Thornless Rose, which comes into bloom soon after the Cinnamon. Its stems are perfectly smooth; it makes a stout bush, ten or twelve feet high, and is covered with a profusion of pretty pink roses. This is suitable for the shrubbery. The Old White Rose makes a handsome bush for training. The flowers are semi-double, of a fine rose-white, and, when properly managed, in rich soil, will grow twelve to fifteen feet high.

Prairie Roses. — Samuel Feast, Esq., of Baltimore, has the honor of originating the first Prairie Rose, — the *Queen of the Prairies*, — for which the Massachusetts Horticultural Society awarded him their large gold medal, as a special premium. This is the type of a new class of hardy Roses, and proves to be a most valuable acquisition for the North, it being as hardy as the oak. The tribe bloom after the summer Roses are passed.

Queen of the Prairies is a most superb variety of *Rosa rubifolia*, a native of the West, sometimes known as the Michigan Rose. This is Mr. Feast's first seedling, and considered by

some the best. The flowers are of a deep rose color, with a white stripe in the centre of each petal. They have a peculiar globular, cap-shaped form. This variety is the most luxurious grower of any of the class, making a surprising growth in rich soil. The flowers of all the varieties are produced in clusters.

Baltimore Belle.—The flowers are a pale, waxy blush, almost white, very double, in large clusters; like the other, perfectly hardy.

Rosa superba has pale, delicate blush roses, in large clusters, the flowers not so large as the Baltimore Belle.

Perpetual Pink produces flowers in great profusion, which continue in long succession; rather small, but in large clusters, varying from light-pink to purple. In addition to those described, there are many other varieties equally desirable, and new sorts are every year produced. This class of Roses lack one important quality, that is, fragrance.

Ayrshire Roses.—This family of Roses are great ramblers, producing a long, slender, luxuriant growth; but, in a northern climate, they cannot be relied on as being perfectly hardy, unless laid down and covered over. They produce very pretty flowers, in clusters, mostly white. They are desirable for covering "unsightly places, old buildings and decayed trees." "The Ayrshire Roses are also valuable for weeping trees. When budded on some stock eight or ten feet high, the branches quickly reach the ground, and, protecting the stem by their close foliage, present a weeping tree of great beauty, loaded with flowers."

Some of the most desirable varieties are the Dundee Rambler; flowers in large clusters, white, edged with pink, and the double blush.

Hybrid China, Bourbons, &c.—Of this class there are many varieties, suitable for pillars, or poles, but which it will be the safest course to be careful of in the winter, in the New England States. In climbing Roses, length is an important feature; and if these hybrids are left without protection, they may lose a large portion of the new wood, unless laid down

and covered over. Rivers' George the Fourth is a Hybrid China; grows about ten feet high; flowers large, of a very rich crimson color. This is also a fine dwarf Rose, when pruned down, and, like most of the Hybrid China, stands perfectly well in the open ground, but the tops are always winter-killed here.

Belle Theresa. — Hybrid China. — A rampant grower, with rich dark purple-crimson flowers, in clusters, under medium size.

Fulgens, — Hybrid China, — has beautiful bright scarlet-cupped flowers.

Gloire de Rosemene. — Bourbon. — This fine Rose gives a succession of fine bright crimson-scarlet flowers, but rather tender.

Brennus, — Hybrid China, — has large bright scarlet-crimson flowers.

Blanchfleur. — Hybrid China. — Pure white; of a very double and compact form, and an abundant bloomer; about six feet high.

Madame d'Arbly. — Hybrid climber, of great luxuriance, flowers white, in exuberant clusters; too tender for the North.

La Tourterelle, or Dove Rose, — Hybrid China, — a very luxuriant grower, but succeeds well as a dwarf Rose, when pruned down. The flowers are large, cup-shaped, of a purplish-lilac or dove color.

Phillipar, — Noisette, or Bourbon, — admired for its profusion, and peculiar rosy-lilac hue of the flowers, blooming without intermission from June to November.

Of the *Hybrid Perpetual* Roses, suitable for training, are Madame Laffay, blooming three or four times in the season, with bright rosy flowers; Prince Albert, already named, with large flowers, of a rich crimson color and perfect shape; and Youland d'Arragon, with fine, deep flowers. There are some of this class that can be made to grow in rich grounds five to six feet high.

In planting climbing Roses, they should always be cut down

to within a few inches of the ground, as it is important to get a clean, vigorous growth for the next year's bloom. Another important matter is, to dig the ground deep and have it thoroughly enriched. A third is, in pruning. The wood of climbing Roses does not produce so fine flowers after it is two years old. It is necessary, therefore, to encourage the growth of one or more new shoots every year, cutting out the old wood as fast as there is new to supply its place. The lateral branches are to be pruned in, while the main stems are to be kept the whole length.

We had almost forgot the *Multiflora Rose*, a class distinct from those already named; they produce flowers in large clusters, but rather small. Some of the varieties are, the Cottage Rose, Laure Davoust, Garland, &c. In New England they are all rather tender.

In closing our remarks on Roses, we cannot refrain from giving Gerarde's account of it some two hundred and fifty years ago. His mode of classification was, among thorny plants. "This plant of Roses, though it be a shrub full of prickles, yet it had been more fit and convenient to have placed it with the most glorious flowers of the world, than to insert the same here, among base and thorny shrubs, for the Rose doth deserve the chiefest and most principled place among all flowers whatsoever, being not only esteemed for its beauty, vertues, and his fragrant, odoriferous smell, but also because it is the honour and ornament of our English sceptre, as by the conjunction appeareth in the uniting of those two most royal houses of Lancaster and York. * * It is reported that the Turks can by no means endure to see the leaves of Roses fall to the ground, because that some of them have dreamed that the first or most ancient Rose did spring from the blood of Venus, and others of the Mahometans say, that it sprang from the sweat of Mahomet. * * The Holland, or Provence Rose hath divers shoots, proceeding from a woody root, full of sharp prickles, dividing itself into divers branches, whereon do grow leaves, consisting of five leaves set upon a single mid-rib, and those snip about the

edges; the flowers do grow on the tops of the branches, in shape and color like the Damask Rose, but greater and more double, insomuch that the yellow chives in the middle are hard to be seen; of a reasonable good smell, but not full so sweet as the common Damask Rose; the fruit is like the other of his kinde."

ON THE ODORS OF ROSES AND THE MODES OF OBTAINING THEM.

"Go, crop the gay Rose's vermeil bloom,
And waft its spoils, a sweet perfume,
In incense to the skies." — OGILVIE.

"Of their sweet deaths are sweetest odors made."

SHAKESPEARE.

"This Queen of the garden loses not its diadem in the perfuming world. The oil of roses, or, as it is commonly called, the otto or attar of roses, is abstracted by various processes from the Cabbage Rose in Turkey, Persia and India; the finest is imported from Ghazepore, in the latter country. For obtaining it, the procurers at each place have their own mode of operation; the best method, however, is to stratify the flowers with a seed containing a fat-oil; they will absorb the essential oil of roses, and swell a good deal if the flowers are changed repeatedly. They are then pressed, and the product allowed to stand for a time; the otto rises to the surface, and is finally purified by distillation. Pure otto of roses, from its cloying sweetness, has not many admirers; it is, moreover, likely to produce headache and vertigo in this state; when diluted, however, there is nothing to equal it in odor, especially if mixed in soap, to form rose soap, or in the pure spirit form, '*Esprit de Rose*.' The former preparation not allowing the perfume to evaporate very fast, we are not so readily surfeited with the smell as in the latter. The finest preparation of Rose as an odor, is made at Grasse, in France; here the flower is not treated for the otto, but simply by maceration in fat, as mentioned with other flowers.

"The Rose Pomade, thus made, if digested in alcohol, yields *Esprit de Rose* of the first order, very superior to that which is

made by the addition of otto to spirit. It is difficult to account for this difference, but it is sufficiently characteristic to form a distinct odor. It is never sold by the perfumer; he reserves this to form part of his *recherché* bouquets. Some wholesale druggists have, however, been selling it to country practitioners for them to form extemporaneous water, which it does to great perfection. Roses are cultivated to a large extent in England, near Mitcham, in Surrey, for perfumers' use, to make rose-water; the odor of the English flower is not strong enough to use for any other purpose. Though the dried rose-leaves are used for scent-bags, they retain but little of their native fragrance. In the season when successive crops can be got, they are gathered as soon as the dew is off, and sent up to town in sacks. When they arrive they are immediately spread out on a cool floor; otherwise, if left in a heap, they will heat to such an extent in two or three hours, as to be quite spoiled; to preserve them for use they are immediately pickled; for this purpose the leaves are separated from the stalk, and to every bushel of flowers, equal to six pounds, one pound of common salt is thoroughly rubbed in; the whole becomes a pasty mass, and is finally stowed away in casks. In this way they will keep almost any length of time without seriously injuring their fragrance. For rose-water, which is best prepared from time to time, take 12 lbs. of pickled Roses, and $2\frac{1}{2}$ gallons of water, place them in a still, and draw off 2 gallons; this product will be the 'double distilled rose-water' of the shops." — *English paper*.

RUBUS.

Bramble.

This genus embraces a class of rambling rough plants, well known and highly prized for their grateful, delicious, and wholesome fruits; the Raspberries, Blackberries, and Thimble-berries, with their varieties. The High Blackberry produces clusters of handsome white flowers, succeeded by delicious fruit, and when cultivated in the garden is much improved.

Rubus odoratus. — The Flowering Raspberry. — This is the only ornamental variety; found growing freely in mountainous districts in most parts of this State, "giving a charm to many a solitary spot by its large, rose-like flowers." The leaves are large and handsome. The fruit is inferior to the other species. It deserves a place among other shrubs. It should be planted in a shady place.

SAMBUCUS.

Sambucus canadensis. — Common Elder. — This very common shrub grows about eight or ten feet high in low ground, and conspicuous in June and July for its broad cymes of white flowers, succeeded by clusters of small, dark-purple, or nearly black, berries. An infusion of the bruised leaves is used by gardeners to expel insects from vines. The flowers are highly esteemed, as having important medicinal qualities. The plant, on account of its ornamental flowers and berries, may be introduced into extensive shrubberies.

Sambucus pubens. — Panicked Elder. — This species is not so common as the last. It is found in mountainous places, and is conspicuous on account of its bright-red berries, — otherwise destitute of beauty.

SHEPARDIA.

Buffalo Tree.

Shepardia, named by Nuttall, in compliment to Mr. Thomas Shepard, of the Botanic Garden, Liverpool.

Shepardia elegnoides. — Buffalo Tree. — This graceful shrub, or low tree, is found in the neighborhood of the Rocky Mountains, in large clumps, or clusters. It is eaten or browsed by the Buffalo, by which it derives its common name. The tree is graceful in its appearance, growing from ten to thirteen feet high; the branches are rather pendulous; the leaves are small, of a soft, woolly nature, and have a silvery appearance.

It is male and female, on different plants. The branches of the female trees are thickly studded with clusters of small crimson berries, nearly the size of the red currant. The fruit has a pleasant acid flavor, and is sometimes used for jelly or preserve. There is an astringent taste in addition to the acid, which makes the fruit of little value, in comparison with the common currant. For an ornamental tree or shrub, it deserves a place among other plants. It is beautiful fruit. Male and female plants should be ordered. The flowers cannot boast of much beauty.

SPARTIUM.

Broom.

Spartium, from Greek, signifying cordage; the earliest ropes were made of this and similar plants. The species are shrubs, thick-set with verdant, flexible, rush-like twigs, which are very ornamental in winter, and generally profusely covered with showy white or yellow pea-shaped flowers in summer.

Spartium scoparium. — Common Brown. — A very ornamental shrub in garden scenery, producing a profusion of its showy blossoms. It is not very common in New England, as our winters are rather severe upon it. In the interior of the country, we find no difficulty in keeping it, when the snows are deep. If planted on the north side of a wall, and covered with snow, it will be found perfectly green in the spring, and flowers abundantly.

SPIRÆA.

Spiræa, in Greek, signifies a cord. Spireon is Pliny's name for a plant, the blossoms of which are used in garlands. The genus affords many ornamental shrubs, all very hardy, and easy to cultivate.

Spiræa hypericifolia. — Hyperica-leaved Spiræa, or, St. Peter's Wreath. — This is a very elegant shrub, producing its

numerous small white flowers in long garlands, upon the delicate curving branches of the plant. The bush, when in flower, has the appearance of being covered with a light fall of snow. The foliage is elegant; it is in flower in May and June; grows about four feet high; the extremities of the branches are sometimes winter-killed; easily propagated by suckers, divisions of the root, or by layers, as all the species are.

Spiræa opulifolia. — Nine-Bark Spiræa. — “An ornamental native shrub, found from Canada to Georgia; from five to seven feet high, distinguished for the abundance of its showy heads of flowers, and for its conspicuous fruit. The stem is rugged, with loose, gray bark, easily detached, and falling off. Flowers in hemispherical heads, on a short stalk,—each flower on a slender, downy thread; white, with a rose tinge.”

Spiræa salicifolia. — The Queen of the Meadows. — This is a very pretty shrub, from two to four, and sometimes six, feet high, with terminal heads of neat white, sometimes rose-tinted flowers, in June and July.

Spiræa tomentosa. — Steeple Bush, — Hardhack. — This is a very common, leafy shrub, from two to five feet high, growing in wet ground, and distinguished in the flowering season for its long, tapering spire of purple flowers. A few years since we ordered all the handsome Spiræas from England, excluding all that we possessed. When they came into flower, we found among them, this old, familiar country friend. It is, however, handsome when cultivated and pruned of the previous year's stem, which disfigures it very much, when growing in the pastures.

“This plant has very valuable astringent qualities, and is employed as a tonic in dysentery, and other disorders of the system.”

Spiræa prunifolia plena. — Double Prune-leaved Spiræa. — This is one of the most desirable species or varieties of the Spiræa, and is perfectly hardy. The following account is from the Gardener's Chronicle. “This charming shrub was introduced into Europe by Dr. Siebold, to whom our collections are

are indebted for so many novelties, only to be procured with the utmost difficulty. It deserves the attention of all amateurs, as well for its hardiness as its elegant habit and beautiful flowers. The Dutch traveller found it cultivated in the Japanese gardens, and supposes its native country to be Corea, or the north of China. It is a shrub, from six to nine feet high, and has upright, close, bushy, slender branches, which are covered with a smooth, ash-colored bark, that detaches itself at later periods in thin scales. The leaves are oval, or ovate elliptic, rounded at their base, obtuse or a little acute at their apex, downy beneath, denticulated at the edge. The flowers, which grow by threes or sixes, cover the whole length of the branches, are as white as snow, and very double, in consequence of a complete abortion of their stamens. Their shape is exactly like that of the *Ranunculus aconitifolius* with double flowers, and their number and arrangement, with a light and elegant bright-green foliage, render this plant a charming addition to the shrubs which grow in the native air." It flowers in this climate in May.

S. Douglassii. — Mr. Douglass' Spiræa. — This shrub is noticed by Mr. Downing, as a new species from California, having some resemblance to *S. tomentosa*, flowering in the same manner; flowers fine rosy-lilac, continuing in bloom from July till the autumnal frosts commence. This species flowered in our collection last year; but, as the plants were not fully established, we could not judge of its merits. The resemblance was so near to *S. tomentosa*, that we were unfavorably impressed with its appearance.

S. sorbifolia. — Pinnate-leaved Spiræa. — This is a vigorous shrub, a native of Siberia. It develops its handsome pinnate foliage very early in the spring. The leaflets are serrated, or with notched edges. The flowers are yellowish-white, produced in large, dense panicles, in June. The flowers seem to be peculiarly attractive to the rose-bugs, which sometimes disfigure and spoil their beauty by the immense numbers which delight to revel in its sweets. This shrub propagates itself too fast,

as it throws up its suckers in great profusion, and makes itself quite too common; otherwise it would be a desirable plant for the shrubbery.

S. bella. — Pretty Spiræa. — This is a dwarf species, about three feet high, producing its beautiful pink flowers in little, dense hemispherical heads, in June; a neat little shrub, worthy of a place in every collection.

S. Reevesii. — Mr. Reeves' Spiræa. — We consider this one of the most elegant and desirable species of the whole family. The flowers are of a snowy whiteness, produced in clusters, the whole length of its graceful, arching stems, which, intermingled with the handsome foliage, produce a pleasing effect. The shrub is delicate in its growth, about four feet high, and flowers in June. It is propagated by cuttings, layers, and suckers.

S. airifolia. — This is a very delicate species we have in our collection, with exceedingly graceful, airy-like foliage, with small heads of white flowers; two or three feet high.

S. lævigata. — Smooth-leaved Spiræa. — This species has smooth lanceolate leaves, without serrature or notch. The flowers are white, in compound racemes, somewhat fragrant. It is not very showy, but, in a collection, makes up a variety; about two or three feet high.

S. argentea. — Silver-striped-leaved Spiræa. — This very delicate species has variegated leaves, with graceful, airy foliage, similar in its habits to *airifolia*; flowers nearly the same.

S. trilobata. — Three-lobed-leaved Spiræa. — The leaves of this species are bluntly three-lobed, and toothed, or notched. The flowers are white, in stalked umbels, about three or four feet high.

Take the species together, we do not know any genus of plants where the foliage is so diversified. When grouped together, they make a fine appearance, either in flower or foliage. There are many other species that have not come under our observation, which, no doubt, are as valuable for the shrubbery as those described.

SYMPHORIA.

Snowberry.

Symphoria is from a combination of Greek words, signifying "a plant which bears its fruit together in clusters."

Symphoria racemosa. — Common Snowberry. — This is a delicate, hardy, North American shrub, extensively known and much cultivated on account of its fine white berries, which are quite ornamental, after the leaves have fallen. The flowers are pink, and rather inconspicuous; the shrub grows about four feet high; easily propagated by suckers.

S. glomerata. — Cluster-berried *Symphoria*, or Indian Currant. — This has no claims to beauty, as to the flowers, which, like the last, are small and inconspicuous, of a pink color. These are succeeded by dark brownish-purple berries, which are thickly clustered upon the branches, three feet high. It is propagated in the same way. Both these species thrive in the shade and under the droppings of trees.



SYRINGA.

Lilac.

"Various in array, now white,
Now sanguine, and her beauteous head now set
With purple spikes pyramidal."

Syringa, — some say from Greek, an Arcadian nymph, or, more properly, here, a pipe. The tubes of the finest Turkish pipes are manufactured from the wood of it; but the true root of the word is to be found in *sirinx*, its native name in Barbary. Lilac is a Persian word, signifying a flower. All the species are most beautiful flowering shrubs, readily propagated by suckers, which they throw up in abundance. The common Lilac seems to have been introduced before or during the reign

of Henry VIII., for in the inventory, taken by the order of Cromwell, of the articles in the gardens of the palace of Non-such, are mentioned six Lilacs, — “trees which bear no fruit, but only a pleasant smell.” — (*Loudon.*)

Syringa vulgaris. — The Common Lilac. — This is so well known that it needs no description. The purple variety is found in almost every garden; the white is more scarce. Grown together, they are very beautiful; and, notwithstanding they are old-fashioned, common, and vulgar, with some people, we esteem them as some of our most valuable and ornamental shrubs of the season.

S. Persica. — Persian Lilac. — This species is “far more delicate and pretty than the common Lilacs, both in leaf and blossom. The bunches of flowers are frequently a foot long, and weigh down the tender terminal slender shoots so as to give the plant a very graceful appearance. The *white* and *purple*, both beautiful; the Cut-leaved Lilac has interesting and delicate foliage.” The Persian Lilac grows about four or five feet high. All the species bloom the last of May and the first of June.

The common Lilacs are suitable for the back of the shrubbery. “This was one of the first plants introduced by our forefathers, and is universally found; often in the front of ancient houses, growing almost to the size of a tree.” To make a small tree of it, care must be taken to destroy all the suckers and keep a clean stem. The Persian varieties are suitable for planting in clumps, or in the front of the shrubbery. Some beautiful new varieties have been imported within a few years, producing immense clusters of flowers. There is one variety with double flowers, but it is not an improvement.

TECOMA.

This genus has been separated from Bignonia, and now includes *T. radicans* and *T. grandiflora*.

Tecoma radicans has been described under the head of Bignonia.

Tecoma grandiflora has flowered with us, but it is rather tender in this climate. It is a native of China and Japan. "In the growth of the wood it is rather more slender, and the leaves more coarsely serrated than those of *B. radicans*. The vine has the same habit of attaching itself firmly to a wall, or building of stone, brick, or wood, or to the trunk of a tree within its reach, by the numerous small air-rootlets which it sends out from the inner sides of its shoots.

"In the blossoms of the *Tecoma grandiflora*, however, lies its peculiar beauty. These are produced, in great profusion of clusters, in July and August, so as to give the whole plant an exceedingly gay and lively appearance. They are not long and tubular, like those of the common Trumpet Flower, but somewhat cup-shaped. * * * The color is beautifully varied, the outside being a rich pure orange-scarlet, marked with brighter streaks. These gay clusters open their blossoms in succession, so as to keep up a brilliant appearance for a long time; and we are acquainted with no climbing shrub, except the Chinese Wistaria, which at all vies in elegance or brilliancy of effect, in the garden or pleasure-ground, with this during the season of bloom. Last season, we counted over three hundred in bloom, at once, upon a plant in our neighborhood; and the same profuse display continued a fortnight or more.

"The *Tecoma grandiflora* may be grown with perfect ease where the old Trumpet Flower (*T. radicans*) thrives. North of this (Newburg, N. Y.) it will, perhaps, require a little protection in winter, such as a layer of straw tied over the larger shoots, or some branches of evergreens laid against them at the approach of winter. A northern site will also be found the better one at the north, wherever there is a doubt of its hardiness, since the temperature will, in such a site, be more uniform and less injurious than in a southern aspect. Wherever the Isabella grape ripens, this handsome climbing shrub will be easily cultivated in almost any situation. If there are any fears of its hardiness, it may be protected, as we have pointed out, for a couple of years, till the wood gets strong and well-

hardened. Any dry, light, well-drained soil, suits this climber. It should be made moderately rich, and in such soil, when planted against a wall, it will cover a space twelve or fourteen feet square, in two or three seasons. It is well worthy the attention of those who are looking for climbers of a permanent kind, to cover unsightly walks, or close fences, or to render garden buildings of any kind more ornamental, by a rich canopy of foliage and bloom." — (*Downing.*)

VIBURNUM.

Viburnum opulus. — Snowball Garden Rose. — This elegant shrub is a common ornament of the garden, producing large white bunches of flowers like those of the *Hydrangea*; grouped with the *Laburnum*, purple and white *Lilacs*, double-flowering *Thorns*, &c., it has a fine effect; in flower the last of May and June; eight or ten feet high; propagated from suckers, layers, and cuttings.

Viburnum lentago. — Sweet Viburnum. — A native species of great beauty. Mr. Emerson describes it as a "beautiful small tree, rising to the height of fifteen to twenty feet, with rich foliage, and clothed, in June, with a profusion of delicate, showy flowers." The flowers are produced in terminal cymes, and from them a very agreeable fragrance is diffused. "There is a softness and richness about the flowers and foliage of the Sweet Viburnum, which distinguish it above all others of the same genus. It is hardly less beautiful in fruit, from the profusion of the rich blue berries hanging down among the curled leaves, which are beginning to assume the beautiful hues of autumn. A tree of this kind makes a fine appearance at the angle of a walk, or in the corner of a garden, as its delicacy invites a near approach, and rewards examination. With this delicacy of appearance, it is a hardy plant, and may sometimes be seen on the bleak hillside, where it has encountered the north-west stormy winds for a score of years."

We think this *Viburnum* much more desirable than the

common Snowball. As it is found growing in uplands, no doubt it will flourish in any garden loam, and propagated the same as the Snowball.

We have a number of other species, which would well repay cultivation. Most of them would require the same treatment as the *Azalea*, and that class of plants, as they are found in swamps and woods. Some of them are very beautiful, viz., *V. dentatum*, *nudum*, *acerifolium*, &c.

Viburnum lantanoides. — Wayfaring Tree, Hobble Bush. — This fine native plant “received its specific name, *lantanoides*, from its resemblance to the English Wayfaring Tree, *V. lantana*, the tree which William addresses, when he says:—

‘Wayfaring Tree! what ancient claim
Hast thou to that right pleasant name?
* * * * *
Whate’er it be, I love it well, —
A name, methinks, that surely fell
From poet, in some evening dell,
Wandering with fancies sweet.’

“That tree rises to the height of eighteen or twenty feet, and has an ample head of white flowers. Ours, less fortunate in its name, is a stout, low bush, found in dark, rocky woods, and making a show, in such solitary places, of a broad head of flowers, the marginal ones often an inch across.” * * *
“The leaves are from four to six inches in length and breadth, roundish, heart-shaped at base, ending in a short, abrupt point, and unequally serrate on the margin. They are smooth above, but beneath downy on the veins, which are thereby rendered strikingly distinct. * * * The fruit is ovate, large, of bright crimson color, turning afterwards almost black.” — (*Emerson*.) The first time we beheld this crooked, straggling shrub, in flower, in its native haunts, a dark swamp, we thought it one of the most ornamental shrubs of the country. It is certainly worthy of a place in every collection of shrubs. It will no doubt succeed with the same treatment as the *Rhododen-*

dron, or Azalea, and may be propagated by seeds, layers, or cuttings.

V. oxycoccus. — Cranberry Tree, High Cranberry. — “A handsome low tree, five to ten feet in height, ornamented throughout the year with flowers, or fruit. In May, or early in June, it spreads open, at the end of every branch, a broad cyme of soft, delicate flowers, surrounded by an irregular circle of snow-white stars, scattered, apparently, for show. The fruit, which is red when ripe, is of a pleasant acid taste, resembling cranberries, for which it is sometimes substituted.” This shrub is said to be the parent of the Guilder Rose or Snowball, *V. opulus*. Mr. Emerson calls this, *V. opulus*, and the Snowball a variety, between which, according to Dr. Torrey and Grey, there is no essential difference. It is one of our handsomest native shrubs.

V. macrocephalum. — Great-clustered Snowball. — “This is a new and splendid species, that has not been much, if any, cultivated in this country. M. Van Houtte describes it as found growing in the gardens about Chusan, China, where it forms a shrub, or tree, twenty feet high. It flowers every year, in May, producing its enormous clusters, which equal those of the old garden *Snowball*, or ‘Guilder Rose,’ in purity of color, and far eclipses them in size and beauty. Each blossom is more than an inch across, and the clusters measure eight or ten inches in diameter. The leaves are regularly oval, with short petioles, and about three inches long. It flourishes, in the open border, in the same soil as the common *Snowball*; and M. Van Houtte considers it one of the most beautiful additions to the shrubbery.” — (*Downing*.)

WEIGELA.

Weigela rosea. — The Rose-colored Weigela. — This is another new shrub, introduced by Mr. Fortune into England from China, first noticed here by Downing.

“When I first discovered this beautiful plant,” says Mr. For-

tune, "it was growing in a Mandarin's garden, on the island of Chusan, and literally loaded with its fine rose-colored flowers, which hung in graceful bunches from the axils of the leaves, and the ends of the branches. Every one saw and admired the beautiful *Weigela*. I immediately marked it as one of the finest plants of Northern China, and determined to send plants of it home in every ship, until I should hear of its safe arrival. It forms a neat bush, not unlike a *Syringa* (*Philadelphus*) in habit, deciduous in winter, and flowering in the months of April and May. One great recommendation to it is, that it is a plant of the easiest cultivation. Cuttings strike readily any time during the winter and spring months, with ordinary attention, and the plant itself grows well in any good garden soil. It should be grown in this country as it is in China, not tied up in that formal, unnatural way in which we see plants brought to our exhibitions; but a main stem or two chosen for leaders, which, in their turn, throw out branches from their sides, and then, when the plant comes into bloom, the branches, which are loaded with beautiful flowers, hang down in graceful and natural festoons."

WISTARIA.

Wistaria. — This genus was formerly included in that of *Glycine*, but has been separated from it, and named by Nuttall in honor of Dr. Caspar Wistar.

Wistaria Sinensis. — The Chinese *Wistaria*. — This is one of the most magnificent climbing shrubby plants in cultivation. It was formerly treated, at the North, as a tender plant, and might be seen trained to the rafters of the green-house, in full flower, in March, with its thousands of rich clusters, or pendulous racemes of delicate pale-purple blossoms, so numerous that the whole space it occupied seemed to be covered with them. Each raceme is from ten to twelve inches long, and densely filled with its delicate and richly perfumed flowers. It is easily raised from cuttings, or layers. In the open ground,

we have known it to make a growth of twenty-two feet in one season ; and, with us, has not failed, excepting one year in the last twelve, to produce an abundant bloom, and that without the least protection. The December previous to the year in which it did not bloom was a very warm one. The buds prematurely started, and were winter-killed ; it, however, flowered in August, but not so perfectly as it should have done in the spring. The flowers make their appearance before the foliage starts, the last of May, in the open ground. The foliage is abundant, and its color is a lively, pleasant hue of green. The plants for the few first years are somewhat tender, at the North, and should be laid down before winter sets in, and covered with earth, or coarse manure. It grows freely in almost any soil ; but to have strong plants, it is important to have a rich, deep loam. It will not flower till the plants get strong.

A new variety, with white flowers, was brought to England from China, by Mr. Fortune. In planting out young vines, they should be cut down to a single bud.

My plants generally produce scattering clusters of flowers, during the last summer months, but are not equal to the clusters produced in the spring. They are planted against a bank wall, on the south side, and run in and out of it at pleasure, sending out long branches in every direction, making free with all the trees in the neighborhood, and running at random in a strange manner. The wood needs shortening in February, or perhaps it would be better to prune in December.

DESCRIPTIVE LIST OF EVERGREEN TREES, SUITABLE FOR THE SHRUBBERY, LAWN, OR PROTECTIVE BELT FOR BUILDINGS, GARDENS, ORCHARDS, &C.

THE value and importance of protection afforded to buildings, gardens, and orchards, by a belt of evergreen trees, in a climate like New England, are but little appreciated or understood even by our most intelligent amateurs and horticulturists. To say nothing of the pleasing and grateful appearance of such a plantation, well arranged, to a person of taste, at a season of the year when, without evergreens, everything out of doors looks drear and cheerless, as a subject of real comfort and utility, it is one which deserves the serious consideration of every one who desires good fruit, rare flowers, or comfortable quarters. An evergreen hedge, or, what is better, a belt of evergreen trees, excludes the cold, searching winds, and enables the horticulturist to bring to perfection many fruits and flowers that would not, without such protection, be enjoyed. Let it be tried, and there will be found a material difference in the range of thermometers placed on both sides of such a belt. As a matter of taste, no one will deny that a variety of evergreens, judiciously planted, adds much to the ornament and beauty of a country residence. Where there is to be any pretension to a shrubbery, a backing of evergreen trees is indispensable. The intermingling of the many deciduous shrubs, bearing ornamental, persistent berries, with the diversified growth and varied colors of the wood, gives, even in winter, a cheerful and pleasant aspect to the pleasure-grounds; and, in summer, when the shrubs and trees are clothed in their magnificent apparel, adorned with their gorgeous flowers, the back-ground of hemlock, fir, spruce or pine, makes a fine contrast, and gives additional beauty to the various forms, colors, and shades, of the foliage and flowers of the deciduous plants and trees.

To understand to perfection the most harmonious arrangement of evergreen trees, a person should travel a few days in some parts of the State of Maine, the home of a large portion of this beautiful tribe. Let him study, for a while, the exquisite groups and combinations of the various species, as he finds them carelessly and naturally arranged in their native habitats, and he need not study books, or consult the landscape gardener, to be informed of the best style of planting his evergreens, and other shrubs or trees. He will find Nature the best teacher.

There is no greater departure from correct taste, than to plant the fir, or other evergreens of that habit, singly, or in regular rows. The hemlock, Norway spruce, and others, may sometimes be planted singly on the lawn; but, as a general rule, most of the evergreens should be planted in groups, or belts, varied with the different sorts. Evergreens seem to be social in their habits, if we may so speak; they seem to flourish best when grown together. Some of the evergreen trees, planted in the solitary style, soon lose their lower limbs, become ragged and unsightly, — a nuisance and an eye-sore to those who are compelled to see them from day to day. Naturally, from cold latitudes, they require the protection and shelter of each other, to screen their roots from the powerful action of the summer's sun. When grouped together, and the lower branches encouraged to grow to the ground, they receive this protection, and will give ample satisfaction to those who adopt this style of planting.

Our own country affords all the variety needful to make an elegant shrubbery, a warm belt, or protective hedge. But there are many evergreens, of foreign growth, that are desirable, to give additional variety and charm to a collection of our own trees. Some of them, as yet, are of doubtful hardiness; but, under the lee of our beautiful hemlocks, spruces, or pines, they will be placed in the most favorable circumstances for successful trial; and not only these, but the magnolias, rhododen-

drons, and other equally difficult trees and shrubs to manage in a northern climate, will, if anywhere, succeed.

Mr. Downing says : " Well-grown belts of evergreens, pines, and furs, which,

——— ' in conic forms arise,
And with a pointed spear divide the skies,'

have, in their congregated strength, a power of shelter and protection that no inexperienced person can possibly understand, without actual experience and the evidence of his own senses. Many a place, almost uninhabitable from the rude blasts of wind that sweep over it, has been rendered comparatively calm and sheltered. Many a garden, so exposed that the cultivation of tender trees and plants was almost impossible, has been rendered mild and genial in its climate, by the growth of a close shelter, composed of masses and groups of Evergreen Trees."

Most of the northern Evergreen Trees are enumerated and described by Mr. Emerson, in his excellent work on " The Trees and Shrubs of Massachusetts," to which we would refer our readers for many interesting details and particulars, and from which we have made many extracts.

He says : " The pines, firs, junipers, cypresses, larches, hemlock, and yews, with some foreign trees, form a very distinct and natural group. The name *Evergreen*, by which they are commonly known, is liable to the exception, that one of the genera found in this climate, the Larch, loses its leaves in winter. The Evergreens are divided into three sections :—

" 1st. Those whose fruit is a true cone, with numerous imbricate scales, like the fir and pine.

" 2d. Those with a globular, compound fruit, like the cypress and arbor vitæ.

" 3d. Those with a globular, compound fruit, like the yew."

PINUS.

The Pine Family.

In this genus, *Pinus*, are the White, Pitch, and Norway Pines, familiar to all.

Pinus sylvestris, — or Scotch Pine, — is found in the British Islands. There is a specimen of this tree at the Botanic Garden, Cambridge. It has some resemblance to Pitch Pine, (*Pinus rigida*,) but has more claim to beauty, of which the other has none, or very little. The Scotch Pine, or Fir, as it is called, differs from the Pitch Pine, in having its leaves in twos, instead of threes. Their color, also, is of a more glaucous green, and, if we remember right, they are also longer than the Pitch Pine. The Pitch Pine is so often seen in barren, sterile soils, that barrenness seems to be associated with it; and, as it has no claim to elegance, we should not recommend this, only for the sake of variety, and this in the back-ground. A few trees of the Scotch Pine may also be admissible, for the same reason, in large plantations.

P. resinosa. — Red or Norway Pine. — This tree is more ample in its dimensions, growing from fifty to one hundred feet high, in Maine. In this State it is not very common. The leaves are in twos, and much longer than on the Pitch Pine. We should not recommend this species only where there are extensive grounds to decorate.

P. strobus. — The White Pine. — This tree is familiar to all, growing to a stately size in the most favorable locations, having been known to attain the height of 264 feet, in Lancaster, N. H., by actual measurement, according to reliable information given to Mr. Emerson by Dr. Dwight; and that they were frequently found 250 feet in height and six feet in diameter. This is about equal to the California trees, of which we have accounts. The White Pine is known by its leaves being in fives. The character of this genus is in having their leaves in a sheath of two, three, or five together. "For ornamental

purposes, of all the well-known Pines," says Mr. Downing, "we give the preference to our native White Pine. The soft, agreeable hue of its pliant foliage, the excellent form of the tree, and its adaptation to a great variety of soils and sites, are all recommendations not easily overlooked. Besides, it bears transplanting well; and is, on this account, also, more generally seen than any other species in our ornamental plantations. But its especial merit, as an ornamental tree, is the perpetually fine, rich, lively green of its foliage. In the Northern States, many evergreens lose their bright color in midwinter, owing to the severity of the cold; and, though they regain it quickly in the first mild days of spring, yet this temporary *dinginess*, at the season when verdure is rarest and most prized, is, undeniably, a great defect. Both the Hemlock and the White Pine are exceptions. Even in the greatest depression of the thermometer known to our neighbors on the 'disputed boundary' line, we believe the verdure of these trees is the same fine, unchanging green. Again, this thin summer growth is of such a soft and lively color, that they are (unlike some of the other Pines, the Red Cedar, &c.,) as pleasant to look upon, even in June, as any fresh and full-foliaged and deciduous tree, rejoicing in all its full breadth of new summer robes. We, therefore, place the White Pine among the first in the regards of the ornamental planter." To this opinion we give our cordial assent.

P. pinaster "is a native of the South of Europe, much cultivated in England as an ornamental tree." Of this species we have no acquaintance, any more than we have with *P. Lambertiana*, *P. Sabiniana*, *P. ponderosa*, and others, natives of California and other parts of the North-west Coast, which, no doubt, will prove hardy here, and be a great acquisition to our collection of Pines; but, as yet, they have not appeared amongst us, with the exception of a few small specimens raised from seed, in possession of curious amateurs in such matters.

P. Austriaca. — "The Austrian Pine," Downing says, "for a rapid-growing, bold, picturesque evergreen, is well deserving

attention. We find it remarkably hardy, adapting itself to all soils, (though said to grow naturally in Austria, on the lightest sands.) A specimen here, grew nearly three feet last season ; and its bold, stiff foliage, is sufficiently marked to arrest the attention among all other evergreens." The same gentleman says of the *Pinus cembra*, the Swiss Stone Pine : " We find it perfectly hardy in this latitude. This tree produces an eatable kernel, and, though of comparatively slow growth, is certainly one of the most interesting of the Pine family."

ABIES.

The Spruce.

According to Emerson, " Three species are found in Massachusetts : —

" 1st. The Hemlock has small, pointed, pendulous, terminal cones, and thin, flat leaves.

" 2d. The Black Spruce has dependent, egg-shaped cones, with scales waved and jagged at the edge.

" 3d. The White Spruce has longer cones, also dependent and spindle-shaped, with scales smooth and entire at the edge.

" Both have four-angled, awl-shaped leaves."

The Norway Spruce, now becoming well known as a hardy, ornamental evergreen, is finer than either the Black or White Spruce, and is distinguished from them by its much longer cylindrical cones, thick foliage, and drooping branches.

Abies Canadensis. — The Hemlock. — This elegant tree, for some reason, has not been introduced into our pleasure-grounds to any great extent ; for what reason, we know not. We have seen it, in great magnificence, in the grounds of Mr. J. S. C. Green, of Waltham, grown upon a lawn, singly, and intermingled with other trees. We remarked to the gardener, that these were the finest specimens we had ever seen, except in its native haunts, and said that it was supposed to be an exceedingly difficult tree to transplant. He replied, this was not the case,

— that it was no more uncertain with this than with other evergreens; and pointed to a tree, thirty or forty feet high, clothed with branches to the ground, which, he said, he transplanted from another part of the ground to where it now stood, but a few years since, it being then six inches in diameter. It was taken up so carefully that the growth was hardly checked. The great trouble with this, as with all evergreens when taken from the woods, is, that it is difficult to save all the roots. They are then often exposed to the sun and air, which, to an evergreen, is more hazardous to its prosperity, than it would be to a deciduous tree. The change of soil and location, to the tree, with only a portion of its roots, which, with the exposure, and, perhaps, too deep planting, proves to be death to the tree. For this reason, trees grown in a nursery are more sure to live than those taken from the forests; having been transplanted into rows and root-pruned, their roots are in small compass, and, as they are generally taken up with a ball of earth, they are almost sure to live. We hope to see the Hemlock more extensively cultivated in our nurseries.

“The Hemlock Spruce, or Hemlock, as, throughout New England, it is universally called, is the most beautiful tree of the family. It is distinguished from all the other Pines by the softness and delicacy of its tufted foliage; from the Spruce, by its slender, tapering branches, and the smoothness of its limbs; and from the Balsam Fir, by its small terminal cones, by the irregularity of its branches, and the gracefulness of its whole appearance.

“The young trees, by their numerous irregular branches, clothed with foliage of a delicate green, form a rich mass of verdure; and when, in the beginning of summer, each twig is terminated with a tuft of yellowish-green recent leaves, surmounting the darker-green of the former year, the effect, as an object of beauty, is equalled by very few flowering shrubs, and far surpasses that produced by any other tree.

“The Hemlock is said, by Parsh, to extend to the most northern regions in Canada, and was found by Mr. Menzies in North-

west America. It is found in every part of this State, on almost every variety of soil. It flourishes in the ruins of granitic rocks, on the sides of hills exposed to the violence of storms. As it bears pruning to almost any degree, without suffering injury, it is well fitted to form screens for the protection of more tender trees and plants, or for concealing disagreeable objects. By being planted in double or triple rows, it may, in a few years, be made to assume the appearance of an impenetrable evergreen-wall, — really impenetrable to the wind and to domestic animals. A hedge of this kind, seven or eight feet high, on a bleak, barren plain, exposed to the north-west winds, gave Dr. Greene, of Mansfield, a warm, sunny, sheltered spot for the cultivation of delicate annual plants. When I saw it, the annuals, several of which were rare exotics, were beautiful, but the Hemlock screen much more so.”— (*Emerson.*)

The Hemlock is of slow growth till it gets well established; it then makes rapid progress, and finally becomes a large tree. The Hemlock should never be planted without some other tree to nurse or protect it. If designed for a single tree for the lawn, or in any other exposed situation, others of its kind should be planted to shade and shelter it, which may be taken away as soon as the tree becomes well rooted.

ABIES NIGRA.

The Black Spruce.

“The Black and the White Spruce are commonly called the Double and Single Spruce. The Double is distinguished from the Single Spruce, by the darker color of the foliage, whence its name of Black Spruce, by the greater thickness in proportion to the length of the cones, and by the looseness of the scales, which are jagged, or toothed, on the edge.

“When the tree stands by itself, in a sheltered situation favorable to its growth, the stages, or whorls, (of its branches) are regularly disposed, and, diminishing gradually in length

from the ground to the top, form a conical head of strikingly regular and symmetrical proportions. To the unpractised eye this mathematical exactness of shape is beautiful; and the Spruce is a favorite tree, and is often placed in the near vicinity of houses. But to one, studious of variety and picturesque effect, the regular cone becomes stiff and monotonous, and the unvarying dark-green of the foliage has a sombre and melancholy aspect. The leaves are dark-green, two or three fifths of an inch long." — (*Emerson.*)

Abies alba.—The Single or White Spruce.—The same author as above describes the White Spruce "as a more slender and tapering tree of the swamps, marked by the light color of the bark and lighter green of the leaves. It rarely rises to the height of forty or fifty feet. It is perfectly straight, with numerous, somewhat irregularly scattered, branches, forming a head of the same shape as that of the Double Spruce, but less broad, and with foliage of a less gloomy color; whence its name. The leaves are of a light bluish-green, in spirals rather closely set, and equally on all sides of the shoot." We found this species growing on the top of a mountain in Maine, near Penobscot River. The whole mountain-top was interspersed with groups of the most perfect-shaped Spruces of this description that could be imagined. They were not more than twenty or thirty feet high, crowded with branches from the ground to the top, forming perfect pyramids of evergreen, so thick that it seemed a fit retreat for any wild animal, or bird, that might seek shelter among its profuse foliage. The lower branches, reclined upon the ground, are so spreading, that the base of the pyramid appeared to be nearly the same width as the height of the tree. A few groups of this description would be magnificent decorations to the pleasure-ground. But such beautiful specimens could hardly be expected, even in this climate, so far out of its natural haunts, or latitude, where it is found in its highest perfection.

A. communis.—Norway Spruce.—This, as we have already remarked, is finer than either the Black or White

Spruce. Loudon says: "It is of the tallest of European Firs, with a very straight, but not thick, trunk. It is a native of the north of Germany and Russia, and particularly abundant in Norway. The tree is peculiarly valuable as a nurse, from being evergreen and closely covered with branches, by which radiated heat is retained; from its conical shape and rigid stem, by which it does not suffocate or whip the adjoining trees; from its being valuable at whatever age it is thinned out; and from its being an excellent shelter for the most valuable game. It is also an excellent hedge plant or shelter." Mr. Downing, in speaking of it, says: "In fact, it is so useful and valuable a tree, that it is destined to become much more popular still. So hardy, that it is used as a nurse plant, to break off the wind in exposed sites, and shelter more tender trees in young plantations; so readily adapting itself to any site, that it thrives upon all soils, from light sand and dry gravel, to deep, moist loam or clay; so accommodating in its habits, that it will grow under the shade of other trees, or in the most exposed positions. There is no planter of new places, or improver of old ones, who will not find it necessary to call it in for his assistance. Then, again, the variety of purposes for which the trees may be used, is so indefinite. Certainly there are few trees more strikingly picturesque than a fine Norway Spruce, forty or fifty years old, towering up from a base of thick branches, which droop and fall to the very lawn, and hang off in those depending curves, which make it such a favorite with the artist."

"*Abies pulcherrima* of Virgil. — The European Silver Fir. — Similar and superior to the Balsam Fir, and which grows to the height of one hundred or one hundred and fifty feet, and even more; grows with great vigor in our gardens and nurseries, and wherever else it has been tried. It is an inhabitant of the mountains of the South of Europe.

"But still more remarkable and desirable trees of this genus are found on the western side of the continent. Such is the tree called Douglass' Spruce Fir, *Abies Douglassii*, from the name of the person who introduced it into England. In its

native forests it varies from one hundred to two hundred and eighty feet in height; and a stump is mentioned as still found on the Columbia River, which measures forty-eight feet in circumference at three feet from the ground, exclusive of its very thick bark." — (*Emerson.*)

PICEA.

The Fir.

The Fir tribe are suitable for ornamenting the shrubbery or lawn, when planted in groups, but not proper for single specimens. "They are remarkable for the regularity and symmetry of their pyramidal heads. The leaves are solitary, needle-shaped, rigid, sempervirent, supposed by botanists formed of two, grown together. They are distinguished from the other Pines by the smoothness of their bark, in which are formed cavities or crypts, containing their peculiar balsam; by the silvery whiteness of the under surface of the seemingly two-rowed leaves, and by their long, erect cones, formed of woody deciduous scales, with a smooth, thin edge.

"*Picea balsamifera.* — The Balsam Fir. — This beautiful evergreen resembles the Spruce in its regular pyramidal form. It differs from it in its bark, which is smooth when young, and continues so until it has attained a considerable age; in its leaves, which are nearly flat, and of a beautiful silver color beneath; and in having large, upright cones. It has a strong resemblance to the Silver Fir of Europe, a much loftier and nobler tree. The American tree is known by the name of the Fir Balsam, or Balsam Fir, or simply Fir." "It is hardy, easily transplanted, and grows rapidly and with great vigor, and possesses in a high degree the most important qualities of the evergreens, as an ornamental tree, — a regular pyramidal shape, and rich, deep-green foliage. The large cones, with which the upper branches are often loaded, give it additional beauty. Its defects are its stiffness, and the raggedness which it assumes in old age, which comes on early, as it is a short-lived tree.

Its chief recommendations are its hardiness, and quickness of growth." — (*Emerson*.)

P. Fraseri. — The Double Balsam Fir. — According to Emerson, this species has a great resemblance to the Balsam Fir, with very little to distinguish them, except that, in the Double Fir, the leaves are usually more crowded. "The mature cone presents a ready and certain distinction. It is of about half the length, and two thirds the thickness, of the common Fir. There are, also, some other small differences, which, however, are not sufficient, in the eyes of the common people, to make two distinct species. From the great richness and luxuriance of the foliage, the Double Balsam is a very beautiful tree, and its leaves diffuse a peculiarly agreeable resinous odor." It is a smaller tree than the Balsam Fir.

LARIX.

The Hacmatack — Larch.

The Larch is not an evergreen, but, as it comes under the same natural division, and is found growing in company with them, we shall notice it here. For ornamental purposes the American Larch (*Larix American*) is much inferior to the European species, (*Larix communis*.)

"The Larches are deciduous trees, of cold and mountainous regions of both continents. They are distinguished from the other Pines by their leaves, which grow many together, in bundles, from the top of buds, whose scales are as persistent as the leaves."

They grow from forty to eighty feet high. The European is extensively cultivated in England and Scotland for timber; many thousands of acres of poor, waste land are improved to great advantage for this purpose.

For ornamental purposes the Larch is important, on account of its rapid growth, beautiful symmetrical shape, and thick foliage, which is of an agreeable light bluish-green. The

foliage differs from all the other cone-bearing trees, by the delicacy of its texture; late in autumn it turns to a soft, leather-yellow color, and, in the first days of November, falls. The Larch is in foliage very early in the spring, and forms a rich contrast to the dark evergreens. The lower branches of the Larch should never be pruned off; as the great beauty of the tree consists in its being clothed to the ground with its rich foliage.

There is a variety, called the Weeping Larch, (*Larix pendula*), which is still more beautiful than either of the others. The foliage is much larger; the branches somewhat drooping.

Larix cedrus. — Cedar of Lebanon. — This magnificent evergreen tree, of the Larch family, is reputed to be a little tender in New England; but, planted where it may receive protection from our more hardy evergreen trees, we have no doubt it will stand without any difficulty, after it has become well established. In the Middle and Southern States there is no doubt but it will thrive and grow for centuries, as it is said it does in its native country. "It is unquestionably the most celebrated tree of the genus, and not less remarkable for the irregular grandeur of its form. The general character of its shoot, even when the tree is young, is singularly bold and picturesque, and quite different from that of every other species of the tribe. It is a native of the coldest parts of the mountains of Libanus, Amanus and Taurus; but it is now to be found in those places in great numbers. The great use of the cedar is to plant singly on lawns, or in the margin of plantations, where one or two specimens will give force and character to the dull-est front of round-headed trees." —(*Loudon*.)

Mr. Downing says: "The most remarkable peculiarity in the Cedar of Lebanon is the *horizontal* disposition of its wide-spreading branches. This is not apparent in very young trees, but soon becomes so as they begin to develop large heads. Though in altitude this tree is exceeded by some of the pines lately discovered in Oregon, which reach truly gigantic heights, yet, in *breadth* and *massiveness*, it far exceeds all ever

green trees, and when old and finely developed on every side, is not equalled, in ornamental point of view, by any sylvan tree of temperate regions. Its character being essentially grand and magnificent, it therefore should only be planted where there is sufficient room for its development on every side. Crowded amongst other trees, all its fine breadth and massiveness is lost, and it is drawn up with a narrow head like any other of the Pine family. But, planted in the midst of a broad lawn, it will eventually form a sublime object, far more impressive and magnificent than most of the country houses which belong to the private life of a republic.

"The Cedar of Lebanon grows in almost any soil, from the poorest gravel to the richest loam. It has been remarked, in England, that its growth is most rapid in localities where, though planted in a good dry soil, its roots can reach water, such as situations near the margin of ponds or springs. In general, its average growth, in this country, in favorable soil, is about one foot in a year; and, where the soil is very deeply trenched before planting, or when its roots are not stinted in the supply of moisture during the summer, it frequently advances with double that rapidity.

"Although hardy here, we understand in New England it requires slight protection in winter, while the trees are quite small. The shelter afforded by sticking a few branches of evergreen in the ground around it, will fully answer the purpose. Wherever the Isabella Grape matures fully in the open air, it may be successfully cultivated. The cone of the Cedar of Lebanon is about four inches long and beautifully drawn.

"The only reason why this grandest and most interesting of all evergreen trees, which may be grown in this country as easily as the Hemlock, wherever the peach bears well, has not already been extensively planted, is owing to two causes. First, that its wants and adaptation to our soil and climate are not generally known; and, second, that it has, as yet, without any sufficient reason, been difficult to procure it, even in our largest nurseries."

THE CYPRESS TRIBE.

"The plants which belong to this section have not their fruit in a true cone, but in a globular or irregular head, consisting of a number of scales, sometimes united into a sort of berry. The section includes the Arbor Vitæ, the Juniper, the Red and White Cedar, the Cypress and the exotic genus *Calistris*. Most of the section are natives of warmer climates. Those which belong to New England are evergreen, but scarcely resinous. They may be propagated by layers and cuttings, but more readily by seeds, which generally lie in the ground a year. The young plants are to be treated like pines."



ARBOR VITÆ.

Cedar — Thuya.

"The name of the genus is derived from a Greek word, signifying *to sacrifice*; it having been used, from the agreeable odor of the wood, in sacrificial offerings."

Thuya occidentalis. — The American Arbor Vitæ. — This is a small evergreen tree, growing from thirty to forty, or even fifty, feet in height. It is remarkable for its graceful, pyramidal, spire-like shape, thickly clothed with branches from the ground to the apex. "The leaves are evergreen, arranged in four rows, in alternately opposite pairs, completely investing and seeming to make up the fan-like branchlets. They are scale-like, marked with a projecting gland below the point, each lower pair embracing and covering the base of the pair above. The branchlets which they cover are arranged in a single plane, as if they were parts of a large, compound, flat, pinnate leaf. These planes are various, inclined to the horizon, often vertical, and form the striking peculiarity of this picturesque tree." The foliage is of a yellowish-green, and contrasts finely with the Fir and other evergreens. The Arbor

Vitæ forms a very ornamental hedge, and is coming very much into use, for protecting gardens from the cold, for which purpose it is admirably adapted. As a fence for keeping out cattle, we do not think it is sufficient. The Arbor Vitæ is sure to live when taken from nurseries; but as they are frequently purchased in the city, in crates, from Maine, they are very uncertain, probably on account of the long exposure of the roots to the sun and air, after they are dug, before they are packed. These young plants may generally be had in Boston for about thirty dollars per thousand. Before they are planted out to form the hedge, they should be grown one or two years in nursery rows. With the greatest care, many will die. When those that survive have become firmly established, the most vigorous may be selected, and, having the ground well prepared, set them out about nine inches or a foot distant from each other; if they are taken up, and set out carefully, not one in a hundred will fail; but if they are set out immediately upon receiving them, probably not one in four will thrive. The Arbor Vitæ bears pruning well, and may be brought into any desired shape, and a single row will form an almost impenetrable screen.



CUPRESSUS.

Cedar, or Cypress.

“The Cypresses, to which this genus belongs, are low, ever-green trees, natives of Europe, Asia, and North America, and remarkable for their spiry form, and the closeness of grain, and the durability of their wood. They have roundish, or polyhedral cones, called galboles, and small, imbricated, scale-like, four-rowed leaves. By the ancients the cypress was considered an emblem of immortality; with the moderns, it is emblematical of sadness and mourning.

‘Dark tree! still sad, when others’ grief is fled,
The only constant mourner of the dead.’ — *Byron*.

"*Cupressus thyoides*. — The White Cedar. — This is always a graceful and beautiful tree. Even when growing in its native swamps, hemmed in on all sides, and struggling for existence, the top, and branches too, near the top, will be marked by a characteristic elegance of shape, which no other of the family possesses. It is entirely free from the stiffness of the Pines, and to the spiry top of the Poplar, and the grace of the Cypress, it unites the airy lightness of the Hemlock. The White Cedar connects the Arbor Vitæ with the Cupresses. It has the characters of both; the scale-like, imbricate leaves and fan-shaped branches of the former, and the lofty, port and globular, or many-sided, fruit of the latter." — (*Emerson*.)

We are not aware that this beautiful native tree has been cultivated for ornamental purposes; we see no reason why it should not. It may be easily raised from seed, which require eighteen months, if planted in autumn, to vegetate. From its dense mass of thick foliage, it will make a fine protecting screen, whether grown as a hedge or as a belt of trees.

Cupressus sempervirens. — The Common Cypress of Europe. — "This is a tall, graceful, plume-shaped tree, the common and suitable ornament for burying places on the Levant; succeeds in the open air in various parts of Britain, and would probably succeed in sheltered places here."

JUNIPERUS.

The Juniper.

"The Junipers are evergreen trees or shrubs, found in all quarters of the globe."

Juniperus Virginiana. — The Red Cedar. — Savin. — This is a very common evergreen tree, of low growth, found in great abundance in the neighborhood of Boston, with rather dark, sober-looking foliage. Although so common and monotonous in its appearance on the rocky shores of Massachusetts, it may be

introduced with good effect among other evergreen trees. We have seen an impervious hedge made of it. For this purpose the plants should be raised from the seed, which, like the White Cedar, will require eighteen months to vegetate. "The Red Cedar is distinguished from the White and the Arbor Vitæ,—the only trees which it resembles,—by having its fruit in the form of a berry, and its leaves exhibiting but slightly a tendency to arrange themselves in a plane." The blue berries, that are sometimes produced in great profusion, add much to the interest of the tree, when they are ripe, in the months of October and November. The Red Cedar assumes various shapes, but generally Gothic-like in style. We have noticed a small tree, in our neighborhood, that is perfectly plume-like in shape, rising up twelve or fifteen feet, with a base of only about three. The Red Cedar is very valuable for posts, its wood being almost incorruptible. They are generally carefully pruned of their lower branches, which spoils the beauty of the tree. For ornament, they should be encouraged to throw off branches from the ground.

J. communis. — The Common Juniper. — This is a prostrate evergreen shrub, troublesome to eradicate, and of no use for ornament.

Among the new evergreen trees desirable for introduction, particularly in a more southern region, are the Deodara Cedar, (*Cedrus deodar*,) and the Chilian Pine, (*Araucaria imbricata*.) We hope they may also succeed in this region; they certainly deserve a trial. They are noticed in Downing's Horticulturist, who says of the Deodar Cedar: "The general habit of this tree, as has been already remarked, is that of the Cedar of Lebanon, which it most nearly resembles. Its foliage, however, is larger, of a lighter, more silvery hue, and the branches have more of a drooping habit, and more feathery lightness, than the Cedar of Lebanon. The fact that it grows more rapidly, will serve as an additional recommendation to the lover of fine trees. This is still a very rare tree. There are yet no specimens in America over a few feet in height." The same author re-

marks: "South of New York, it will certainly form one of the most beautiful of ornamental trees;" but in a northern latitude it may not succeed so well. Bishop Heber describes it "as the glory of the Himalayas, — a splendid tree, with gigantic arms, and dark, narrow leaves."

Araucaria imbricata, — or Chilian Pine. — The editor of the Horticulturist is of opinion that, from the experience of a number of seasons, this tree will prove hardy in the latitude of New York, and quotes a description of it from the London Horticultural Magazine: "Leaves generally eight together, ovate lance-shaped, thickened at the base, stiff, straight, with persistent mucros; cones globular at the end of the branches, about the size of a man's hand; scales beautifully imbricated.

"A remarkable evergreen tree, of magnificent dimensions, almost the only one to be met with in those districts where it is indigenous. It is a high tree, from eighty to one hundred feet, with a trunk like a pillar. Standing closely together in the forest, the trees are generally devoid of branches to the height of fifty or sixty feet. The top is in the shape of a depressed cone; the side branches proceeding from the trunk in a horizontal direction, and ascending lightly at the tips. Over those branches the leaves are thickly set, like scales, which give an appearance of richly-embossed work. From the thick coating of leaves which pervades the whole outlines of the tree, an idea of some brittleness is conveyed to the mind. The wood, however, was successfully used in ship-building, in 1780, by Don Francisco Dendariarena." "This plant is a native of Chili, in South America. The tree is particularly ornamental, and no plant can be used with greater effect in distinguishing particular spots of country appropriated to art. It should be on every gentleman's lawn. It is both elegant and unique."

A DESCRIPTION OF SOME OF THE INSECTS THAT ARE INJURIOUS TO THE PLANTS OF THE FLOWER-GARDEN.

To give a description of all the insects that infest the plants of the flower-garden, it would be necessary to write a volume, so numerous are the voracious tribe that prey upon the roots, stems, foliage, and flowers of the floral kingdom. The depredation of insects is one of the greatest offsets to the pleasures of the garden. To nurse some favorite plant, watching over it from day to day, anticipating its opening beauties, and then, just as one's hopes are upon the point of being realized, to see the plant suddenly smitten with some mysterious disease, or as suddenly destroyed by some noxious tribe of vermin, — perhaps dying in a night, like Jonah's gourd, — who can help feeling a little ruffled, or even like justifying good old Jonah, who thought it "well to be angry for his gourd?"

The knowledge we possess of the habits of the various insects is very scanty. We are indebted, mainly, to that excellent work, "A Treatise on some of the Insects of New England, which are injurious to Vegetation," by Dr. T. W. Harris, of Cambridge, Mass., for all that is important in relation to them in this section of our work. Dr. Harris' Treatise should be accessible to every one who has anything to do with the cultivation of the farm or garden. His descriptions are so plain, that almost any person may get all the desirable information of all the insects of which he treats. It is said by competent persons, that this Treatise is the most complete, as far as it goes, of any work in the English language.

Some of the most annoying insects of the flower-garden, are the Rose Sawfly, or Rose Slug, and the Rose Bug.

Rose Slug. — The Rose Slug has, within a few years, proved very destructive to the Rose, in the vicinity of Boston, and

probably in other parts of the country ; so much so, that many persons have almost abandoned the cultivation of this most desirable of all flowers. A few years since, the Massachusetts Horticultural Society offered the liberal special premium of \$100 for an efficient remedy. An application of diluted whale-oil soap was discovered, by Mr. David Haggerston, to be a complete remedy, when seasonably applied, and the premium was awarded to him. We shall insert his communication to the Society, in which he details the mode of preparation and application.

The Rose Slug, if not checked in season, destroys the foliage, and the plants look as if they had been scorched by fire. We have known delicate growing roses killed to the ground by these small, but destructive, insects.

One great objection to the use of whale-oil soap is the disagreeable odor it gives to the plant, which, if applied at the time the roses are in bloom, spoils them entirely. When the insect is in the fly-state they may be found in great numbers on the under sides of the leaves. The whale-oil soap will destroy them in that state, if it is applied with force, as with a syringe, or garden engine.

If the application is made in season, and followed up, every two or three days, till the roses begin to open their buds, the slug will either be exterminated, or so far checked as to preserve the foliage till the bloom is about over, when a new attack must be made upon the surviving vermin, which by this time have acquired their full size. It takes two or three days to rid the plants of the disagreeable odor, after the application. We give Dr. Harris' description of the insect entire : —

“ The Saw-fly of the rose, which, as it does not seem to have been described before, may be called *Selandria rosæ*, from its favorite plant, so nearly resembles the slug-worm saw-fly as not to be distinguished therefrom, except by a practised observer. It is also very much like *Selandria barda*, *vitis*, and *pygmaea*, but has not the red thorax of these three closely allied species. It is of a deep and shining black color. The

first two pairs of legs are brownish-gray, or dirty white, except the thighs, which are almost entirely black. The hind legs are black, with whitish knees. The wings are smoky, and transparent, with dark-brown veins, and a brown spot near the middle of the edge of the first pair. The body of the male is a little more than three twentieths of an inch long, that of the female one fifth of an inch or more, and the wings expand nearly or quite two fifths of an inch. These Saw-flies come out of the ground, at various times, between the twentieth of May and the middle of June, during which period they pair and lay their eggs. The females do not fly much, and may be seen, during most of the day, resting on the leaves; and, when touched, they draw up their legs, and fall to the ground. The males are more active, fly from one rose-bush to another, and hover around their sluggish partners. The latter, when about to lay their eggs, turn a little on one side, unsheathe their saws, and thrust them obliquely into the skin of the leaf, depositing, in each incision thus made, a single egg. The young begin to hatch in ten days or a fortnight after the eggs are laid. They may sometimes be found on the leaves as early as the first of June, but do not usually appear in considerable numbers till the twentieth of the same month. How long they are in coming to maturity, I have not particularly observed; but the period of their existence in the caterpillar state probably does not exceed three weeks. They somewhat resemble the young of the Saw-fly, in form, but are not quite so convex. They have a small, round, yellowish head, with a black dot on each side of it, and are provided with twenty-two short legs. The body is green above, paler at the sides, and yellowish beneath; and it is soft, and almost transparent, like jelly. The skin of the back is transversely wrinkled, and covered with minute elevated points; and there are two small, triple-pointed warts on the edge of the first ring, immediately behind the head. These gelatinous and sluggish creatures eat the upper surface of the leaf in large irregular patches, leaving the veins of the skin, beneath, untouched; and they are sometimes so

thick that not a leaf on the bushes is spared by them, and the whole foliage looks as if it had been scorched by fire, and drops off soon afterwards. They cast their skins several times, leaving them extended and fastened on the leaves; after the last moulting, they lose their semi-transparent and greenish color, and acquire an opaque yellowish hue. They then leave the rose-bushes, some of them slowly creeping down the stem, and others rolling up and dropping off, especially when the bushes are shaken by the wind. Having reached the ground, they burrow to the depth of an inch or more in the earth, where each one makes for itself a small oval cell, of grains of earth, cemented with a little gummy silk. Having finished their transformations, and turned to flies, within their cells, they come out of the ground early in August, and lay their eggs for a second brood of young. These, in turn, perform their appointed work of destruction in the autumn. They then go into the ground, make their earthen cells, remain therein throughout the winter, and appear, in the winged form, in the following spring and summer.

“During several years past these pernicious vermin have infested the rose-bushes in the vicinity of Boston, and have proved so injurious to them as to have excited the attention of the Massachusetts Horticultural Society, by whom a premium of \$100, for the most successful mode of destroying these insects, was offered, in the summer of 1840. About ten years ago I observed them in gardens at Cambridge, and then made myself acquainted with their transformations. At that time they had not reached Milton, my former place of residence, and have appeared in that place only within two or three years. They now seem to be gradually extending in all directions, and an effectual method for preserving our roses from their attacks has become very desirable to all persons who set any value on this beautiful ornament of our gardens and shrubberies. Showering or syringing the bushes with a liquor, made by mixing with water the juice expressed from tobacco by tobacconists, has been recommended; but some caution is

necessary in making this mixture of a proper strength, for, if too strong, it is injurious to the plants; and the experiment does not seem, as yet, to have been conducted with sufficient care to insure safety and success. Dusting lime over the plants when wet with dew has been tried, and found of some use; but this and all other remedies will probably yield in efficacy to Mr. Haggerston's mixture of whale-oil soap and water, in the proportion of two pounds of the soap to fifteen gallons of water. Particular directions, drawn up by Mr. Haggerston himself, for the preparation and use of this simple and cheap application, may be found in the 'Boston Courier,' for the 25th of June, 1841, and also in most of our agricultural and horticultural journals of the same time. The utility of this mixture has already been repeatedly mentioned in this treatise, and it may be applied in other cases with advantage. Mr. Haggerston finds that it effectually destroys many kinds of insects; and he particularly mentions plant-lice of various kinds, red spiders, canker-worms, and a little jumping insect, which has lately been found quite as hurtful to rose-bushes as the slugs or young of the Saw-fly. The little insect, alluded to, has been mistaken for a species of Thrips, or vine-fretter; it is, however, a leaf-hopper, or species of *Tettigonia*, much smaller than the leaf-hopper of the grape-vine (*Tettigonia vitis*), described in a former part of this essay, and, like the leaf-hopper of the bean, entirely of a pale-green color."

"To *M. P. Wilder, Esq., President of the Massachusetts Horticultural Society* :

"Sir, — Having discovered a cheap and effectual mode of destroying the *Rose Slug*, I wish to become a competitor for the premium offered by the Massachusetts Horticultural Society. After very many satisfactory experiments with the following substance, I am convinced it will destroy the above insect, in either of the states in which it appears on the plant, as the fly, when it is laying its eggs, or as the slug, when it is committing its depredations on the foliage.

"*WHALE OIL SOAP, dissolved at the rate of two pounds to fifteen gallons of water.* I have used it stronger, without injury to the plants, but find the above mixture effectual in the destruction of the insect. As I

find, from experiments, there is a difference in the strength of the soap, it will be better for persons using it, to try it diluted as above, and if it does not kill the insect, add a little more soap, with caution. In corresponding with Messrs. Downer, Austin & Co., on the difference in its appearance, they say : 'Whale Oil Soap varies much in its relative strength, the article not being made as soap, but being formed in our process of bleaching oil. When it is of very sharp taste, and dark appearance, the alkali predominates ; and when light-colored and flat taste, the grease predominates.' The former I have generally used, but have tried the light-colored, and find it equally effectual, but requiring a little more soap, — say two pounds to thirteen gallons of water.

Mode of Preparation. — Take whatever quantity of soap you wish to prepare, and dissolve it in boiling water, about one quart to a pound; in this way strain it through a fine wire or hair sieve, which takes out the dirt, and prevents its stopping the valves of the engine, or the nose of the syringe; then add cold water, to make it the proper strength; apply it to the rose-bush with a hand-engine or syringe, with as much force as practicable, and be sure that every part of the leaves is well saturated with the liquid. What falls to the ground, in application, will do good in destroying the worms and enriching the soil, and, from its trifling cost, it can be used with profusion. A hogshead of 136 gallons costs forty-five cents, — not quite four mills per gallon. Early in the morning, or in the evening, is the proper time to apply it to the plants.

"As there are many other troublesome and destructive insects the above preparation will destroy, as effectually as the Rose Slug, it may be of benefit to the community to know the different kinds upon which I have tried it with success.

"The *Thrips*, often called the Vine-Fretter, — a small, light-colored or spotted fly, quick in motion, which, in some places, are making the rose-bush nearly as bad in appearance as the effects of the Slug. *Aphis*, or Plant Louse, under the name of Green or Brown Fly; an insect not quick in motion, very abundant on, and destructive to, the young shoots of the Rose, the Peach Tree, and many other plants. The *Black Fly*, a very troublesome and destructive insect, that infests the young shoots of the Cherry and the Snowball Tree. I have never known any positive cure for the effects of this insect, until this time. Two varieties of insects that are destructive to, and very much disfigure, Evergreens, the Balsam or Balm of Gilead Fir in particular, one an *Aphis*, the other very much like the Rose Slug. The *Acarus*, or Red Spider, that well-known pest to gardeners.

"The disease *Mildew*, on the Gooseberry, Peach, Grape Vine, &c., &c., is checked and entirely destroyed by a weak dressing of the solution.

"The above insects are generally all destroyed by one application, if

properly applied to all parts of the foliage. The eggs of most insects continue to hatch in rotation, during their season. To keep the plants perfectly clean, it will be necessary to dress them two or three times.

“I remain, Sir,

“Your most obedient Servant,

“DAVID HAGGERSTON.

“Watertown, June 19th, 1841.”

The Rose Bug.—“The Rose-chafer, or Rose-bug, as it is more commonly and incorrectly called, is also a diurnal insect. It is the *Melolontha subspinosa* of Fabricius, by whom it was first described, and belongs to the modern genus *Macrodactylus* of Latreille. Common as this insect is in the vicinity of Boston, it is, or was a few years ago, unknown in the northern and western parts of Massachusetts, in New Hampshire, and in Maine. It may, therefore, be well to give a brief description of it. This beetle measures seven twentieths of an inch in length. Its body is slender, tapers before and behind, and is entirely covered with very short and close ashen-yellow down. The thorax is long and narrow, angularly widened in the middle of each side, which suggested the name *subspinosa*, or somewhat spined; the legs are slender, and of a pale-red color; the joints of the feet are tipped with black, and are very long, which caused Latreille to call the genus *Macrodactylus*, that is, long toe, or long foot. The natural history of the Rose-chafer, one of the greatest scourges with which our gardens and nurseries have been afflicted, was for a long time involved in mystery, but is at last fully cleared up. The prevalence of this insect on the rose, and its annual appearance coinciding with the blossoming of that flower, have gained for it the popular name by which it is here known. For some time after they were first noticed, Rose-bugs appeared to be confined to their favorite, the blossoms of the rose; but within thirty years they have prodigiously increased in number, have attacked at random various kinds of plants, in swarms, and have become notorious for their extensive and deplorable ravages. The grape-vine in particular, the cherry, plum, and apple trees, have annually suffered by their depredations. Many other fruit

trees and shrubs, garden vegetables and corn, and even the trees of the forest and the grass of the fields, have been laid under contribution by these indiscriminate feeders, by whom leaves, flowers, and fruits, are alike consumed. The unexpected arrival of these insects in swarms, at their first coming, and their sudden disappearance, at the close of their career, are remarkable facts in their history. They come forth from the ground during the second week in June, or about the time of the blossoming of the Damask Rose, and remain from thirty to forty days. At the end of this period the males become exhausted, fall to the ground, and perish, while the females enter the earth, lay their eggs, return to the surface, and, after lingering a few days, die also. The eggs laid by each female are about thirty in number, and are deposited from one to four inches beneath the surface of the soil. They are nearly globular, whitish, and about one thirtieth of an inch in diameter, and are hatched twenty days after they are laid. The young larvæ begin to feed on such tender roots as are within their reach. Like other grubs of the Scarabæians, when not eating, they lie upon the side, with the body curved so that the head and tail are nearly in contact. They move with difficulty on a level surface, and are continually falling over on one side or the other. They attain their full size in the autumn, being then nearly three quarters of an inch long, and about an eighth of an inch in diameter. They are of a yellowish-white color, with a tinge of blue towards the hinder extremity, which is thick and obtuse, or rounded; a few short hairs are scattered on the surface of the body; there are six short legs, namely, a pair to each of the first three rings behind the head; and the latter is covered with a horny shell of a pale rust color. In October they descend below the reach of frost, and pass the winter in a torpid state. In the spring they approach towards the surface, and each one forms for itself a little cell, of an oval shape, by turning round a great many times, so as to compress the earth and render the inside of the cavity hard and smooth. Within this cell the grub is transformed to a pupa, during the

month of May, by casting off its skin, which is pushed downwards in folds from the head to the tail. The pupa has somewhat the form of the perfected beetle; but it is of a yellowish-white color, and its short stump-like wings, its antennæ, and its legs, are folded upon the breast, and its whole body is enclosed in a thin film, that wraps each part separately. During the month of June this filmy skin is rent, the included beetle withdraws from it its body and its limbs, bursts open its earthen cell, and digs its way to the surface of the ground. Thus the various changes, from the egg to the full development of the perfected beetle, are completed within the space of one year.

“Such being the metamorphoses and habits of these insects, it is evident that we cannot attack them in the egg, the grub, or the pupa state; the enemy, in these stages, is beyond our reach, and is subject to the control only of the natural but unknown means appointed by the Author of Nature to keep the insect tribes in check. When they have issued from their subterranean retreats, and have congregated upon our vines, trees, and other vegetable productions, in the complete enjoyment of their propensities, we must unite our efforts to seize and crush the invaders. They must indeed be crushed, scalded, or burned, to deprive them of life, for they are not affected by any of the applications usually found destructive to other insects. Experience has proved the utility of gathering them by hand, or of shaking them or brushing them from the plants into tin vessels containing a little water. They should be collected daily during the period of their visitation, and should be committed to the flames, or killed by scalding water. The late John Lowell, Esq., states that, in 1823, he discovered, on a solitary apple-tree, the Rose-bugs ‘in vast numbers, such as could not be described, and would not be believed if they were described; or, at least, none but an ocular witness could conceive of their numbers. Destruction by hand was out of the question,’ in this case. He put sheets under the tree, and shook them down, and burned them. Dr. Green, of Mansfield, whose investigations have thrown much light on the history of

this insect, proposes protecting plants with millinet, and says that in this way only did he succeed in securing his grapevines from depredation. His remarks also show the utility of gathering them. 'Eighty-six of these spoilers,' says he, 'were known to infest a single rose-bud, and were crushed with one grasp of the hand.' Suppose, as was probably the case, that one half of them were females; by this destruction, eight hundred eggs, at least, were prevented from becoming matured. During the time of their prevalence, Rose-bugs are sometimes found in immense numbers on the flowers of the common white-weed, or ox-eye daisy, (*Chrysanthemum leucanthemum*), a worthless plant, which has come to us from Europe, and has been suffered to overrun our pastures, and encroach on our mowing lands. In certain cases it may become expedient rapidly to mow down the infested white-weed in dry pastures, and consume it, with the sluggish Rose-bugs, on the spot.

"Our insect-eating birds undoubtedly devour many of these insects, and deserve to be cherished and protected for their services. Rose-bugs are also eaten greedily by domesticated fowls; and when they become exhausted and fall to the ground, or when they are about to lay their eggs, they are destroyed by moles, insects, and other animals, which lie in wait to seize them. Dr. Green informs us, that a species of dragon-fly, or devil's needle, devours them. He also says that an insect, which he calls the enemy of the Cut-worm, probably the larva of a Carabus or predaceous Ground-beetle, preys on the grubs of the common Dorbug. In France, the Golden Ground Beetle (*Carabus auratus*) devours the female Dor, or Chafer, at the moment when she is about to deposit her eggs. I have taken one specimen of this fine Ground-Beetle in Massachusetts, and we have several other kinds, equally predaceous, which probably contribute to check the increase of our native Melolonthians."

OCT 3 1916

